

BS Third Semester

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BS in Arabic

Course-I

English III (Technical Writing and Presentation Skills)

Objectives: Enhance language skills and develop critical thinking

Course Contents Presentation skills

Essay writing

Descriptive, narrative, discursive, argumentative

Academic writing

How to write a proposal for research paper/term paper

How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)

Technical Report writing Progress report writing

Note: Extensive reading is required for vocabulary building

Recommended Books

Technical Writing and Presentation Skills

a) Essay Writing and Academic Writing

1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 435407 3(particularly suitable for discursive, descriptive, argumentative and report writing).
2. College Writing Skills by John Langan. McGraw-Hill Higher Education. 2004.
3. Patterns of College Writing (4th edition) by Laurie G. Kirszner and Stephen R. Mandell. St. Martin's Press.

b) Presentation Skills

c) Reading

The Mercury Reader. A Custom Publication. Compiled by Northern Illinois University. General Editors: Janice Neuleib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).

BS in Arabic

Course-II

Intorduction to computing

Course Description

This course introduces students to computer science. Students will design software independently and as part of a team, using industry-standard programming tools and applying the software development life-cycle model. They will also write and use subprograms within computer programs. Students will develop creative solutions for various types of problems as their understanding of the computing environment grows.

Course Objectives

- To familiarize the students with the concept on which the computer works.
- To realize other important elements of a computing environment i.e. Operating System and Programming Languages.
- To make some foundation of algorithm usage.
- Become more knowledgeable and proficient in the most commonly used applications for computers at workplace.

Learning Outcomes

After completion of this course, students should be able to:

1. Identify, analyze, and document the requirement specifications for typical software projects and design techniques to create a solution to the problem.
2. Critically examine the basic concepts of computer organization and architecture, CPU, computer memory and machine language.
3. Demonstrate ability to use Internet tools and network protocols to implement client/server applications.
4. Exhibit professional behavior and work habits, demonstrate the ability to work in teams, and effectively communicate project design.

Violation of Academic Honesty Policy

If any two projects / assignments are identical or partially identical, a zero will be awarded. The repetition of such kind may lead to an “F” grade in the course.

3002

Class Conduct:

Class attendance is mandatory. You may miss up to 6 class sessions. On the seventh absence, you will be withdrawn from the course. As a courtesy to the instructor and other students, be prepared to arrive at class and be in your seat on time. In addition, please note that each class lasts for 90 minutes.

Also keep in mind some general rules as given below:

- Cell phones should be powered off.
- Eatables are not allowed in the class.
- The teacher will not tolerate any disruptive behavior in the class.
- The Dress Code has to be observed, no warnings will be given, and violators will be asked politely to leave the class and consequently will be marked absent.

Participation:

Students are required to attend all classes and read all the assigned material in advance of class (although not necessarily with perfect comprehension). Advanced preparation and class participation are crucial for periods in which we discuss cases. During discussion sessions, the instructor generally keeps track of the insightful and useful comments students make. (Any unproductive contribution is not rewarded)

Reference Material:

- Peter Norton's Introduction to Computers, 6th Edition, McGraw-Hill, 2006.
- Computer Science: An Overview By J. Glenn Brook shear, Prentice Hall, 2012

Calendar of Activities & (Session Plan)

Weeks	Contents	Activities
1	Introducing Computer Systems: 1A: Exploring Computers and Their Uses <ul style="list-style-type: none">• Overview: Computers in our world• The computer defined• Computer for individual users• Computer for organizations• Computer in society 1B: Looking Inside the Computer System <ul style="list-style-type: none">• Overview: Dissecting the ultimate machine• The Parts of a Computer System• The information processing cycle• Essential computer hardware• Software brings the machine to life• Computer data• Computer users	

2	Using the Keyboards and Mouse: 2A: Using the Keyboard and Mouse <ul style="list-style-type: none"> • Overview: The keyboard and mouse • The keyboard • How the computer accepts input from the keyboard • The mouse • Variants of the mouse 2B: Inputting Data in Other Ways <ul style="list-style-type: none"> • Overview: Options for every need and preference • Device for the hand • Optical input devices • Audiovisual input devices • Computer in the career: Hardware Technician 	
3	Seeing, Hearing, and Printing Data: 3A: Video and Sound <ul style="list-style-type: none"> • Overview: reaching our senses with sight and sound • Monitors • Ergonomics and Monitors • Data projectors • Sound systems 3B: Printing <ul style="list-style-type: none"> • Overview: Putting digital content in your hands • Commonly used printers • High-Quality printers • Computers in your career: Computing training specialist 	Assignment-1
4	Processing Data: 4A: Transforming Data into Information <ul style="list-style-type: none"> • Overview the difference between data and information • How computer represent data • How computer process data • Factors affecting processing speed • The computer's internal clock • The bus 4B: Modern CPUs <ul style="list-style-type: none"> • Overview: The race of the desktop • A look inside the processors • Microcomputer processors • RISC processors • Parallel processing • Extending the processor's power to other devices 	Quiz-1
5	Sorting Data: 5A: Types of Storage Devices <ul style="list-style-type: none"> • Overview: An ever-growing need • Categorizing storage devices • Magnetic storage devices • Optical storage devices • Solid-state storage devices 5B: Measuring and Improving Drive Performance	Assignment-2

	<ul style="list-style-type: none"> • Overview: The need for the speed • Average access time • Data transfer rate • Optimizing disk performance • Drive-Interface standards 	
6	Using Operating Systems: 6A: Operating System Basics <ul style="list-style-type: none"> • Overview: The purpose of operating systems • Types of operating systems • Providing a user interface • Running programs • Managing hardware • Enhancing an OS with utility software 6B: Survey of PC and Network Operating Systems <ul style="list-style-type: none"> • View: Operating systems yesterday and today PC operating systems • Network operating systems • Embedded operating systems 	
7	Networks: 7A: Network Basics <ul style="list-style-type: none"> • Overview: Sharing data anywhere, anytime • The uses of a network • Common types of networks • Hybrid networks • How networks are structured • Network topologies and protocols 7B: Data Communication <ul style="list-style-type: none"> • Overview: The local and global reach of methods • Data communications with standard telephone • Lines and modem • Wireless networks 	Quiz-2
8	Presenting the Internet: 8A: The Internet and the World Wide Web <ul style="list-style-type: none"> • Overview: What is the internet? • The internet's history • The internet's major services • Understanding the world wide web • Using your browser and world wide web • Closing your browser • Searching the web • Searching results and websites 8B: E-mail and Other Internet Services <ul style="list-style-type: none"> • Overview: Communicating through the internet • Using E-Mail • More features of the internet 	
9 th Week	MID TERM	
10	Working in the Online World:	

3005

	9A: Connecting to the Internet <ul style="list-style-type: none"> • Overview: Joining the internet phenomenon • Connecting to the internet through wires 9B: Doing Business in the Online World <ul style="list-style-type: none"> • Overview: Commerce on the world wide web • E-commerce at the consumer level • E-commerce at the business level 	
11	Working with Application Software: 10A: Productivity Software <ul style="list-style-type: none"> • Overview: Software to accomplish the work of life • Acquiring software • Word processing programs • Spreadsheet programs • Presenting programs 10B: Graphics and Multimedia <ul style="list-style-type: none"> • Overview: Graphics, graphics everywhere • Understanding graphics file formats • Getting images into your computers • Graphics software 	Assignment-3
12	Database Management: 11A: database Management Systems <ul style="list-style-type: none"> • Overview: The mother of all computer applications • Database and database management systems • Working with a database 11B: Survey of Database Systems <ul style="list-style-type: none"> • Overview: When applications grow huge • Enterprise software • Common corporate database management systems 	Quiz-3
13	Software Programming and Development: 12A: Creating Computer Programs <ul style="list-style-type: none"> • Overview: What is a computer program? • What is a computer program? • Hardware/Software interaction planning a computer program • How program solve problems • Forecast the weather 	Assignment-4
14	12B: Programming Languages and the Programming Process <ul style="list-style-type: none"> • Overview The key to successful programming • The evolution of programming languages • The systems development life cycle for programming 	
15	Protecting Your Privacy, Your Computer, and Your Data: 13A: Understanding the Need for Security Measure <ul style="list-style-type: none"> • Overview: The need for computer security • Basic security concepts • Threat of users • Threat of hardware • Threat of data 	Quiz -4
16	13B: Taking Protective Measures <ul style="list-style-type: none"> • Overview: keeping your system safe 	

	<ul style="list-style-type: none">• Protecting yourself• Protecting your privacy• Managing cookies, spyware, and other “Bugs”• Keeping your data secure	
17 th Week	FINAL TERM	

BS in Arabic

Course-III

حقوق الاسرة

تعريف الأسرة تعريف الأسرة لغة تعريف الأسرة اصطلاحاً	اسرة کی تعریف لغت میں اصطلاح میں
الأسرة من منظور سيكولوجي	اسرة(خاندان) سائيکالوجی کے اعتبار سے
الأسرة من منظور وظيفي	اسرة(خاندان) کردار کے اعتبار سے
أهمية الأسرة في المجتمع الحديث	اسرة(خاندان) کی جدید زمانے میں اہمیت
أنواع هياكل الأسرة 1 الأسرة النووية 2 الأسرة ذات ولي أمر واحد 3 الأسرة الممتدة 4 الأسرة الخالية من الأطفال 5 الأسرة البديلة: 6 أسرة الأجداد	اسرة(خاندان) کی تنظیمی اعتبار سے اقسام 1 واحد کنبہ 2 والدين میں سے کسی ایک پر مشتمل کنبہ 3 مشترک کنبہ 4 بچوں کے بغیر کنبہ 5 سوتیلے والد والدہ پر مشتمل کنبہ 6 دادا دادی کے زیر نگرانی کنبہ
وظائف الأسرة 1 الوظيفة البيولوجية 2. الوظيفة الاقتصادية: 3 الوظيفة الحضارية 4 الوظيفة العاطفية 5 الوظيفة النفسية 6 وظيفة المَكانة 7 وظيفة الحماية 8 الوظيفة الدينية 9 الوظيفة الترفيهية 10 الوظيفة الإحصائية	اسرة(خاندان) کی ذمہ داریاں 1 جبلی تقاضوں کی تکمیل 2 اقتصادی ضروریات کا حصول 3 تہذیبی تقاضوں کی تکمیل 4 جذباتی ضروریات کی تکمیل 5 نفسیاتی ضروریات کا تحفظ 6 معاشرتی مقام کا حصول 7 ہر قسم کا تحفظ 8 دینی اقدار کا تسلسل 9 تفریحات 10 شماریاتی ضروریات کا حصول
قضايا تتعلق بتكوين الأسرة 1 اختيار الشريك، 2 نوع العلاقة الزوجية، 3 الأمومة والأبوة، 4 نمط الأسرة	اسرة(خاندان) 1 معاملات میں شراکت 2 زوجین کے باہمی تعلقات 3 والدین کا طرز نگہداشت 4 خاندان کا معاشرتی چلن
الاسرة في الاسلام	اسلام میں اسرة(خاندان) سے مراد
أهمية الأسرة في الإسلام	اسرة(خاندان) کی اسلام میں اہمیت
علاقة الوالدين بالأولاد	والدين اور اولاد کا باہمی تعلق
حقوق الوالدين	والدين کے حقوق

<p>البر بالوالدين</p> <p>1 البر بالوالدين في حياتهما</p> <p>2 البر بالوالدين بعد حياتهما</p>	<p>والدين کے ساتھ بھلائی</p> <p>1 والدین کی زندگی میں انکے ساتھ بھلائی</p> <p>2 والدین کی موت کے بعد ان کے ساتھ بھلائی</p>
<p>حقوق الأولاد على الوالدين</p>	<p>والدين پر اولاد کے حقوق</p>
<p>حقوق الزوجين</p> <p>1 حقوق الزوجة على زوجها</p> <p>2 حقوق الزوج على زوجته</p>	<p>زوجین کے حقوق</p> <p>1 بیوی کے اپنے شوہر پر حقوق</p> <p>2 شوہر کے اپنی بیوی پر حقوق</p>
<p>حق الأخ على أخته</p>	<p>بھائی کے بہن پر حقوق</p>
<p>حقوق الأخت على أخيها</p>	<p>بہن کے بھائی پر حقوق</p>
<p>1 تفكك الاسرة</p> <p>2 انواع التفكك الاسرة</p> <p>3 اسباب تفكك الاسرة</p> <p>4 اثر التفكك الاسرة على الاطفال</p> <p>5 التفكك الاسرة ودوره في السلوك الاجرامى</p>	<p>1 اسرہ(خاندان) کی شکست وریخت</p> <p>2 اسرہ(خاندان) کی شکست وریخت کی اقسام</p> <p>3 خاندان کی شکست وریخت کی وجوہات</p> <p>4 خاندان کی شکست وریخت کا بچوں پر اثر</p> <p>5 خاندان کی شکست وریخت کا جرائم کے رجحان میں کردار</p>

BS in Arabic

Course-IV

بسم الله الرحمن الرحيم

Title: The Life of Holy Prophet S.A.W	:عنوان المقرر سيرة النبي ﷺ
Course Code : ARB-01304	:رمز المقرر 01304
Medium: Arabic/ Urdu	:ذريعة العربية / الأردية

ساعات 3 : الساعات المعتمدة

بكالوريوس في اللغة و آدابها : البرنامج التي يتم تقديم المقرر ضمنه
الفصل الثالث : المستوى التي سيتم تقديم هذا المقرر فيه
(Semester III))

الأهداف :

- 1: معرفة أهم مصادر كتب السيرة النبوية
- 2: دراسة مفصلة للسيرة النبوية الشريفة
- 3: تعليم اتباع النبي ﷺ

مفردات المقرر: الموضوعات الدراسية

الموضوع	الموضوع	الأسبوع
نبي كريم ﷺ كاتب ا: نبي كريم ﷺ كآباء واجداد ب: نبي كريم ﷺ كيهي انش	نسب النبي ﷺ ا: اجداد النبي ﷺ ب: مولد النبي ﷺ	1
نبي كريم ﷺ كاغيرانه ا: ازواج مطهرات ب: اولاد اطهار	اسرة النبي ﷺ ا: ازواج النبي ﷺ ب: اولاد النبي ﷺ	2
مكة مكرمه ميں اسلام كى دعوت كى مراحل پر ايک نظر ا: نزول وحى ب: خفيه دعوت	نظرة عامة إلى مراحل الدعوة بالمكة المكرمة ا: نزول الوحي	3

ب: الدعوة السرية ج: الدعوة جهاراً د: دعوة الإسلام خارج مكة	ج: اعلانیہ دعوت دہریہ ون مکہ دعوت اسلام	
معراج النبي ﷺ	معراج النبی ﷺ	4
هجرة النبي ﷺ إلى المدينة	نبی کریم ﷺ کی مدینہ کی طرف ہجرت	5
ميثاق المدينة	میثاق مدینہ	6
غزوة بدر و احد	غزوہ بدر و احد	7
الإمتحانات	مڈ ٹرم امتحانات	8
غزوة أحزاب	غزوہ احزاب	9
الصلح الحديبية	صلح حدیبیہ	10
غزوة مكة غزوة تبوك	غزوہ مکہ و غزوہ تبوک	11
حجة الوداع	الوداعی حج	12
اسلوب الدعوة بعد الهجرة إلى المدينة مكاتبة الملوك : والأمراء ب: الوفود	ہجرت مدینہ کے بعد دعوت کے طریقے ا: بادشاہوں اور امراء کے نام خطوط ب: الوفود	13
دراسة موجزة من أخلاق النبي ﷺ	نبی کریم ﷺ کے اخلاق کا مختصر مطالعہ	14
رحلة النبي ﷺ	رفیق اعلیٰ کی جانب	15
الإمتحانات	فائنل امتحانات	16

: الكتب الرئيسية

- الرحيق المختوم في السيرة النبوية ، صفی الرحمن مبارکبوری : 1
- الخصائص الكبرى، لسليمان الندوي : 2
- السيرة النبوية، ابن كثير: 3

BS in Arabic

Course-V

Course Title: Functional Arabic (2).

الساعات المعتمدة: 3 ساعات

البرنامج الذي يتم تقديم المقرر ضمنه : بكالوريوس في اللغة العربية و آدابها

المستوى الذي سيتم تقديم هذا المقرر فيه: الفصل الثالث

CourseCode: ARB-01305

رمز المقرر: عربي 01305

الأهداف:

1. أن يتمكن الطالب من تطبيق اللغة العربية.
2. أن يتعرف الطالب على الكتب الرئيسية لتعلم اللغة العربية.
3. أن يدرس الطالب اللغة العربية و يتمرن و يختبر و يستعمل اللغة العربية في حياته اليومية.

مفردات المقرر -الموضوعات الدراسية:

الوحدة الأولى(العناية بالصحة)
الوحدة الثانية(الترويح عن النفس)
اختبر نفسك(الوحدتان 2.1)
الوحدة الثالثة(الحياة الزوجية)
الوحدة الرابعة(الحياة في المدينة)
اختبر نفسك(الوحدتان 4.3)
الوحدة الخامسة(العلم والتعلم)
الوحدة السادسة(المهن)
اختبر نفسك(الوحدتان 6.5)
الوحدة السابعة(اللغة العربية)

الوحدة الثامنة(الجوائز)
اختبر نفسك(الوحدتان 8-7)
الوحدة التاسعة(العالم قرية صغيرة)
الوحدة العاشرة(النظافة)
اختبر نفسك(الوحدتان 10-9)

مصادر الدراسة:

الكتب الرئيسية:

- 1- العربية بين يديك في تعليم اللغة العربية لغير الناطقين بها، الجزء الأول، لعبدالرحمن ومختار طاهر حسين ومحمد عبدالخالق، مشروع العربية للجميع، مؤسسة الوقف الإسلامي ، 2002م.
- 2- دروس اللغة العربية لغير الناطقين بها، للدكتور: ف عبدالرحيم مطابع الجامعة الإسلامية، المدينة المنورة 2000م
- 3- معلم الإنشاء (الجزء الرابع)مولانا عبدالماجد ندوي ومولانا محمد رابع حسني ندوي مجلس نشریات اسلام، كراتشي، 1995م

BS in Botany

Course-I

Instructor			Email:	
Course Title	English - III (Technical Writing and Presentation Skills)		Program	BS
Course Number	ENGL-00301		Credit Hours	3(3+0)
Lecture	.....day: period (00:00a.m to 00: 00a.m), Room# 00			
Course Objective: To enable the students to write a research paper/technical report in a succinct manner according to aspecified format.				
Methods of Teaching <input type="checkbox"/> Assigned readings <input type="checkbox"/> Group activities & Discussion <input type="checkbox"/> Audiovisual aids lectures <input type="checkbox"/> Web-assisted instruction <input type="checkbox"/> Student-Directed Teaching				
ResourceMaterial	1. Text Books a) Essay writing and Academic Writing 1. Writing.Advanced by Ron White. oxford Supplementary skills. Third Impression 1992.ISBN0194354073(particularly suitable for discursive, descriptive, argumentative and report writing). 2. College Writing skills by John Langan. McGraw-Higher Education.2004. 3. Patterns of College Writing (4 th edition) by Laurie G.Kirszner and Stephen R.Mandell. St Martin's press. b) Presentation skills c) Reading The Mercury reader. A custom Publication. Compiled by northern Illinois University. General Editors: Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).			
	2.Reference Books		3.Research Papers	
	i		i	
	Ii		ii	
	4.Hot Research Papers		5.Web Resources	
	i		i	
	Ii		ii	
	Office Hours	Help		
Grading	Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)			
Problem Session	.....day: 00 and 00 periods (0:00-00:00am), Room# 00			
SEQUENCE OF TOPICS TO BE COVERED				
Lecturer #	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory	
1	Introductory class			
2	Introduction of course			
3	Introduction to Presentation			
4	Presentation skills (introduction and Elaboration of skills)			

5	Communication Skills (listening and Speaking)		
6	Reading and Writing		
7	Essay Writing (introduction and types description)		
8	Descriptive Essay		
9	Narrative Essay		
10	Discursive Essay		
11	Argumentative Essay		
12	Topic to practice Essay (Classroom Activity)		
13	Introduction to Academic writing		
14	Ways to improve Writing skills		
15	Ways to improve Reading skills by assigning topics to students		
16	Review of syllabus for mid-term exams		
	Mid Term Exam	Course/Discussion from session 1 to 16	
17	What is Research? (General Introduction)		
18	Types of research (Detailed description)		
19	Qualitative Research		
20	Quantitative Research		
21	Benefits of Research and Scope of Research		
22	How to write Research proposal?		
23	What is research paper? (general Introduction)		
24	Writing a research proposal for Research paper/term paper		
25	Research paper and its style		-
26	Research paper and its content		-
27	Research paper and language to be used in it		-
28	Form of Research Paper		-
29	Clarity of Research paper		-
30	Consistency of material to be used in Research paper		
31	Practice of techniques by writing a sample Research paper		
32	Class test/quiz and Review of syllabus		
33	Final Term Exam	Course/Discussion from session 1- 32	

3015

Student Evaluation criteria:

Attendance	10
Workshop / Assignments/Case study	
Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in "F Grade". Students may prepare Sketchbook for taking notes and for references.

Instructor / Tutor

Approved by:

Chairman

3016

BS in Botany

Course-II

DEPARTMENT OF BOTANY

Tentative Course Plan

Class:		Semester-		Session:	
Instructor		Email:			
Course Title	Computer Applications	Program	BS		
Course Number	Comp 00302	Credit Hours	3(2+1)		
Lecture	.....day: period (00:00a.m to 00: 00a.m), Room# 00				
Course Objective: Give students an in-depth understanding of why Computers are essential components in business, education and society. Introduce the fundamentals of computing devices and reinforce Computer vocabulary, particularly with respect to personal use of Computer hardware and software, the Internet, networking and mobile computing. Provide hands-on use of Microsoft Office applications Word, Excel, Access and PowerPoint. Completion of the assignments will result in MS Office applications knowledge and skills.					
Methods of Teaching <ul style="list-style-type: none"> Assigned readings Group activities & Discussion Audiovisual aids lectures Web-assisted instruction Student-Directed Teaching 					
Resource Material	1. DISCOVERING COMPUTERS FUNDAMENTALS (1 st Edition)SHELLY VERMAAT 2. Absolute Beginner's Guide to Computer Basics (5thEdition) Michael Miller Que Publishing 3. How Computers work (9 th Edition) Ron White				
	2.Reference Books		3.Research Papers		
	i		i		
	li		ii		
	4.Hot Research Papers		5.Web Resources		
	i		i		
	li		ii		
Office Help Hours					
Grading Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)					
Problem Session .....day: 00 and 00 periods (0:00-00:00am), Room# 00					
SEQUENCE OF TOPICS TO BE COVERED					
Lecturer #	Topics (outline of main topics and sub topics)		Chapter #	Tutorial /Laboratory	

1	Introduction of course		
2	Basic concept of Computer		
3	Computer applications		
4	Computer generations		
5	Computer Components		

6	Computer Types		
7	Computer input Devices		
8	Computer output Devices		
9	Computer – Memory Primary Memory Secondary memory Cache memory		
10	Random Access Memory Static RAM Dynamic RAM		
11	Read Only Memory MROM PRO M EPR OM EEPROM		
12	Memory units Numbers system		
13	Computer Hardware Relationship Between Hardware and Software Motherboard		
14	Computer Software System Software(Operating System)Types of Operating System		
15	Application Software Utility Software Open Source Software		
16	Mid Term Exam		
17 & 18	Office Tools Detail Word processor Spread Sheet Presentation sheet Data Base Management Domain specific tools		

19 & 20	Computer Networking Local Area Networking Wide Area Networking Metropolitan Area Networking Networking Topologies		
21 & 22	MS Word Creation of Document Designing, Editing and Formatting.		
23 & 24	World Wide Web History Internet Creation of Account in Gmail, Outlooketc. How to use one drive How to use google drive		

25 & 26	Working with Spread Sheet Tables Different Operations		
27 & 28	Power Point Presentation SheetUsing the Power Point CreatingPresentation Designing, Editing and Formatting		
29 & 30	Class test, Quiz & Discussions		
31	Discussion from 1-30		
32	Final Term Exam		

Student Evaluation criteria:

Attendance	10
Workshop / Assignments/Case study	
Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in "F Grade". Students may prepare Sketchbook for taking notes and for references.

BS in Botany

Course-III

DEPARTMENT OF BOTANY

Tentative Course Plan

Class: B.S

Semester- 3rd

Session:

Instructor		Email:	
Course Title	Geography of Pakistan	Program	BS
Course Number	GEOG-03103	Credit Hours	3(3+0)

Lecture	Monday, Wednesday and Friday
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Course Objective:

This course attempts to impart knowledge about the relationship between man and physical, socio-economic and cultural environment with special reference to Pakistan, including land, population, human settlements, resources and related human activities.

Methods of Teaching

- Assigned readings
- Group activities & Discussion
- Audiovisual aids lectures
- Web-assisted instruction
- Student-Directed Teaching

Resource Material

1. Text Books

1. Khan, F. K. (1991) Geography of Pakistan, Oxford University Press, Karachi Spate, O. H. K. (2004) India and Pakistan, Munshiram Mohoanlal Publications Pvt. Ltd., UK.
2. Tayyeb, A. (1973) A Political Geography of Pakistan, Oxford University Press. Oxford.

2.Reference Books

- i The environment of Pakistan (Huma Naz Sethi)

- li Topography of Pakistan

4.Hot Research Papers

- i Dichter, D. (1967) Geography of N-W.F.P, Oxford University Press, Oxford.
- li Hameed, A. (1972) Study of the Middle Indus Basin, San Francisco State

3.Research Papers

- i Hameed, A. (1972) Study of the Middle Indus Basin, San Francisco State College, San Francisco. Johnson, B.L.C (198).

- ii Burkey, J. S. (1991) Pakistan the continuing search for Nationhood, Western Press Oxford, UK.

5.Web Resources

- i https://en.wikipedia.org/wiki/Geography_of_Pakistan
- ii <https://www.britannica.com/place/Pakistan>

Office Help Hours

Grading

Exam (Date to be announced)
Mid- Exam (30%) Final Exam (50%)
Problem Session/Assignments (20%)

Problem Session

Monday, Wednesday and Friday

SEQUENCE OF TOPICS TO BE COVERED

Lecturer #	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory
1	Introduction, Orientation, Course Outline		
2	Definition, Concepts		
3	Location of Pakistan		
4	Geographical significance of Pakistan		
5	Geo-political Importance of Pakistan		
6	Administrative setup of Pakistan		

7	Land and Physical Environment		
8	do		
9	Physiography of Pakistan		
10	do		
11	Climate and climatic regions		
12	do		

13	Hydrological setup of Pakistan		
14	Indus water Treaty		
15	Soils, vegetation		
16	forests in Pakistan		
	Mid Term Exam	Course/Discussion from session 1 to 16	
17	Population characteristics: structure, composition		
18	distribution and population change		
19	Urbanization in Pakistan		
20	Urban structure		
21	Agriculture (crops and livestock)		
22	do		
23	Power resources in Pakistan		
24	Mineral resources in Pakistan		
25	Industries in Pakistan		-
26	Trade of Pakistan		-
27	Tourism in Pakistan		-
28	do		-
29	Transport		-
30	Communication		
31	Major challenges of Pakistan Water		
32	power, security		
	Final Term Exam	Course/Discussion from session 1- 32	

Student Evaluation criteria:

3021

Attendance	10
Workshop / Assignments/Case study	

Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in "F Grade". Students may prepare Sketchbook for taking notes and for references.

Approved by:
Chairman

Instructor / Tutor

BS in Botany

Course-IV

DEPARTMENT OF BOTANY

Class: BS

Semester- 3rd

Session: 2020-24

Instructor		Email:	
Course Title	Wildlife Management	Program	BS
Course Number	ZOOL-01304	Credit Hours	3(2+1)
Lecture	.....day: period (00:00a.m to 00: 00a.m), Room# 00		
<u>Course Objective:</u> Wildlife Management in its broadest sense is the science and practice of species conservation and restoration, as well as active management for the wise use of renewable natural resources. Wildlife management boils down to managing densities of target species: sustaining or increasing numbers of rare or threatened species; reducing excess numbers, controlling or eradicating pest species; or maintaining numbers of a harvested species. A fundamental decision relates to the level of intervention necessary to achieve the stated objectives. Ideally you would not need to intervene at all, just monitor to ensure desirable densities, distributions or population structures are maintained. At the other end of the spectrum are highly intensive interventions such as captive-breeding and reintroduction. The decision concerning the appropriate level of intervention and the assessment of the effects of that intervention are the stuff of day-to-day wildlife management. The information on which to base your decisions and the ways in which you investigate these needs and outcomes derive from the techniques of wildlife management			
Methods of Teaching <ul style="list-style-type: none">• Assigned readings• Group activities & Discussion• Audiovisual aids lectures• Web-assisted instruction• Student-Directed Teaching			
Resource Material	1.Books Prescribed Bailey, J.A. Principles of Wildlife Management, 1986. John Wiley and Sons.. Ali, S.S. Paleontology, Zoogeography & Wild-Life Management. 1999. Nasim Book Depot. Hyderabad, India. Boyd, C.E. and Tucker, C. S. POND Aquaculture and Water Quality Management. 1998. Boston, Kluwer Publishers Alabama. Roberts, T. J. The Birds of Pakistan, (Vol. II), 1998. Oxford University Press Roberts, T. J. The Birds of Pakistan, (Vol. I). 1992. Oxford University Press		
	2.Reference Book		3.Research Papers
	i		i
	ii		ii
	4.Hot Research Papers		5.Web Resources
	i		i
	ii		ii

Office Help Hours	.....day, .....day: 00:00am		
Grading	Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)		
Problem Session	.....day: 00 and 00 periods (0:00-00:00am), Room# 00		
SEQUENCE OF TOPICS TO BE COVERED			
Session/Week	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory
1	Introductory lectures		
2 & 3	Study of wild life maps of Punjab, Sindh, NWFP & Balochistan and AJ & K Ecological notes on different formal species		,
4 & 5	Identification, distribution, status, conservation and management (population estimate technology) of Fishes		
6 & 7	Identification, distribution, status, conservation and management (population estimate technology) of reptiles		
8 & 9	Identification, distribution, status, conservation and management (population estimate technology) of birds		
10 & 11	Identification, distribution, status, conservation and management (population estimate technology) of mammals		
12 & 13	Philosophy and significance of wildlife conservation		
14 & 15	Course/Discussion		
16	Mid Term Exam		
17 & 18	Biodiversity and sustainability of wildlife		

19 & 20	Wildlife rules and regulations in Pakistan		
21 & 22	National and international agencies involved in conservation and management of wildlife		
23 & 24	Sanctuaries and game reserves in Pakistan		
25 & 26	National parks and wetlands in Pakistan		
27 & 28	Endangered species of Pakistan		
29 & 30	Class test, quiz		
31	Course/Discussion		
32	Final Term Exam		

Student Evaluation criteria:

Attendance	10
Workshop / Assignments/Case study	
Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in “F Grade”. Students may prepare Sketchbook for taking notes and for references.

BS in Botany

Course-V

Tentative Course Plan

DEPARTMENT OF BOTANY

Class: BS

Semester- 3rd

Session: 2020-24

Instructor		Email:	
Course Title	Cell Biology, Genetics & Evolution	Program	BS
Course Number	BOTA-01304	Credit Hours	4(3+1)
Lecture	.....day: period (00:00a.m to 00: 00a.m), Room# 00		
Course Objective: 1. To enable the students to understand structure and functions of cell, nature of genetic material and hereditary process ,familiarization with evolutionary processes 2. To enable the students to access & generate new knowledge in purposeful fashion. 3. Gene expression regulation during embryogenesis 4. Gene expression misregulation in carcinogenesis 5. To understand that a phylogenetic tree depicts lines of evolutionary descent 6. To understand that no living species is ancestral to another			
Course Outcomes: Graduates of the Genetics and Biotechnology BS program will be able to: 1. Students will learn the basic principles of inheritance at the molecular, cellular and organismal levels. 2. 2. Students will understand causal relationships between molecule/cell level phenomena (“modern” genetics) and organism-level patterns of heredity (“classical” genetics) 3. Students will test and deepen their mastery of genetics by applying this knowledge in a variety of problem-solving situations 4. Display a broad understanding of core molecular genetics concepts including molecular biology, genetics, cell biology, physiology, and evolution. 5. Understand the evidence that living species share descent from common ancestry and how this fact explains the traits of living species 6. Understand that evolution entails changes in the genetic composition of populations 7. Understand the source of genetic variation and how it is shaped in the absence of selection (Hardy- Weinberg; genetic drift) 8. Understand the concept of fitness and how heritable differences in fitness result in natural selection.			
Methods of Teaching <ul style="list-style-type: none">Assigned readingsGroup activities & DiscussionAudiovisual aids lecturesWeb-assisted instructionStudent-Directed Teaching			
Resource Material	1.Books Prescribed Latest additions of books will be recommended from stock available in the main library of the university Cell biology, genetics, molecular biology, evolution and ecology by verma, agarwal 2005, Cell and molecular biology, by P. K Gupta, 2012. Cytology Genetics Evolution and Ecology By P. K. Gupta. 2010.		
	2.Reference Book		3.Research Papers
	i		i
	ii		ii
	4.Hot Research Papers		5.Web Resources
	i		i
	ii		ii
Office Help Hours	.....day, .....day: 00:00am		

Grading	Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)		
Problem Session	.....day: 00 and 00 periods (0:00-00:00am), Room# 00		
SEQUENCE OF TOPICS TO BE COVERED			
Session/Week	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory
1	Introductory lectures		
2 & 3	Structures and Functions of Bio-molecules i. Carbohydrates ii. Lipids iii. Proteins iv. Nucleic Acids		Extraction and estimation of carbohydrate, protein,
4 & 5	Physico-chemical nature of plasma membrane and cytoplasm. Ultrastructure of plant cell with a brief description and functions of the following organelles i. Cell wall ii Endoplasmic reticulum iii. Plastids vi. Mitochondria		Study of cell structure using compound microscope and elucidation of ultrastructure from electron microphotographs
6 & 7	Ultrastructure of plant cell with a brief description and functions of the following organelles v. Ribosomes vi. Dictyosomes vii. Vacuole		
8 & 9	Nucleus: Nuclear membrane, nucleolus, ultrastructure and morphology of chromosomes, karyotype analysis		
10 & 11	Reproduction in somatic and embryogenic cell, mitosis and meiosis,		Study of mitosis and meiosis by smear/squash method and from prepared slides
12 & 13	Chromosomal aberrations; Changes in the number of chromosomes. Aneuploidy and euploidy. Changes in the structure of chromosomes, deficiency, duplication, inversion and translocation		
14 & 15			
16	Mid Term Exam	Course/Discussion	
17 & 18	Introduction, scope and brief history of genetics. Mendelian inheritance; Laws of segregation and independent assortment, back cross, test cross, dominance and incomplete dominance		Genetical problems related to transmission and distribution of genetic material
19 & 20	Sex linked inheritance, sex linkage in Drosophila and man (colour blindness), XO, XY, WZ mechanisms, sex limited and sex linked characters, sex determination		

21 & 22	Linkage and crossing over: definition, linkage groups, construction of linkage maps, detection of linkage		
23 & 24	Molecular genetics; DNA replication. Nature of gene, genetic code, transcription, translation, protein synthesis, regulation of gene expression (e.g. <i>lac</i> operon)		
25 & 26	Transmission of genetic material in Bacteria: Conjugation and gene recombination in <i>E.coli</i> , transduction and transformation		
27 & 28	Principles of genetic engineering / biotechnology		
29 & 30	The nature of evolutionary forces, adaptive radiations, differential reproductive potential, first plant cell, origin of organized structures.		
31	Course/Discussion		
32	Final Term Exam		

Student Evaluation criteria:

Attendance	10
Workshop / Assignments/Case study	
Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in "F Grade". Students may prepare Sketchbook for taking notes and for references.

Instructor/Tutor

Approved by:

Dean/ Chairman/ HOD/ Subject Specialist/
Program Coordinator

BS in Chemistry

Course-I

Course Title: Applications of Computer

Course Code: COMP-00301

Credit Hours: 3

Course Outline

Introduction to Computer, effective uses of Computers in education

Some new / advanced online computer applications

Word Processing (Word)

Presentation (PowerPoint)

Spreadsheet (Excel)

Desktop Publishing (Publisher)

Microsoft Front page

Introduction to Internet, Search engines, Web browsers

Introduction to HTML and Web Page Design

Introduction to Protocols, Http, TCP/IP, FTP

Simple web page making using HTML

Introduction to XML

Database, Introduction to SQL as well as the use of emerging technologies.

BS in Chemistry

Course-II

Compulsory (English–III Technical Writing and Presentation Skills)

Course Code: ENGL–00301

Credit Hours: 3

Objectives: Enhance language skills and develop critical thinking

Course Contents

Presentation skills

Essay writing

Descriptive, narrative, discursive, argumentative

Academic writing

How to write a proposal for research paper/term paper

How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)

Technical Report writing

Progress report writing

Note: Extensive reading is required for vocabulary building

Recommended Books:

Technical Writing and Presentation Skills

a) Essay Writing and Academic Writing

1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 435407 3 (particularly suitable for discursive, descriptive, argumentative and report writing).
2. College Writing Skills by John Langan. Mc=Graw-Hill Higher Education. 2004.
3. Patterns of College Writing (4th edition) by Laurie G. Kirsznier and Stephen R. Mandell. St. Martin's Press.

b) Presentation Skills c)
Reading

The Mercury Reader. A Custom Publication. Compiled by norther Illinois University. General Editors: Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students)

BS in Chemistry

Course-III

Course Title: Foundation-3 (Physical Chemistry)

(Chemical Thermodynamics, Chemical Kinetics, Quantum Chemistry)

Course Code: CHEM-01351

Credit Hours: 3+1

Course Objectives:

Students will acquire knowledge to enable themselves to understand the fundamental principles and laws of thermodynamics and chemical equilibria and to investigate the Physical properties of ideal/non-ideal binary solutions. Students will also be able to study the rates of reactions and perform related calculations.

Chemical Thermodynamics:

Thermodynamics and its applications, four laws of thermodynamics and their

applications, entropy, Helmholtz and Gibbs free energy, Enthalpy, Carnot Cycle, thermochemistry, Hess's law of constant heat summation, Laplace law of thermochemistry, calorimetry, heat capacities and their dependence on temperature, pressure and volume, reversible and non-reversible processes, spontaneous and non-spontaneous processes, relations of entropy and Gibbs free energy with equilibrium constant, Applications of Gibbs free energy

Chemical Kinetics:

The rates of reactions, Kinetics of zero, first, second and third order reactions with same and different initial concentrations, Molecularity and order of reaction, rate constant of the reaction, half-lives of reactions, experimental techniques for rate determination and methods for determination of order of reaction (integration, half-life, initial rate, and graphical methods), Arrhenius equation.

Quantum Mechanics:

Quantum mechanics and its significance, Classical mechanic and its limitations, electromagnetic theory of radiation, Black body radiation, Photoelectric effect, Planck quantum theory of radiation, Application of quantum theory, difference between matter waves and electromagnetic waves, comparison of classical and quantum mechanics, Schrödinger wave equation

PHYSICAL CHEMISTRY PRACTICALS (CHEM-....Lab)

1. Determination of viscosity and Rheochor values of given liquids by Viscometer.
2. Determination of surface tension and Parachor values of given liquids by Stalagmometric method.
3. Determination of refractive index and related physical parameters of given liquids by Refractometric method.
4. Determination of percent composition of liquid solutions by refractive index measurements.
5. Determination of molecular weight of a compound by elevation of boiling point (ebullioscopic method).
6. Determination of molecular weight of a compound by lowering of freezing point (cryoscopic method).
7. Determination of heat of solution by solubility method.
8. Determination of heat of neutralization of an acid with a base.
9. Kinetic study of acid catalyzed hydrolysis of ethyl acetate.

Recommended Books:

1. Mc Quarrie, D. A. and Simon, J. D., Physical Chemistry – A Molecular Approach, 1st ed., University Science Books, (1997).
2. Atkins, P. and Paula, J.D., Atkins's Physical Chemistry, 9th ed., Oxford University Press, (2010).
3. Shoemaker, D., Experiments in Physical Chemistry, 8th ed., McGraw Hill Publishing Company Limited, (2003).
4. Silbey, R., Alberty, R. and Bawendi, M., Physical Chemistry, 4th ed., (2005).
5. Glasstone, S., Textbook of Physical Chemistry, Macmillan London (1960).
6. James, A. M., Prichard, F. E., Practical Physical Chemistry, 3rd ed., Longman Group Limited, New York, (1974).
7. Chaudhary, S. U., Ilmi Textbook of Physical Chemistry, 2nd ed., Ilmi Kitab Khana, Lahore, (2013).
8. Atkins, P., Jones, L., Chemical Principles: The Quest for Insight, 5th ed., W. H. Freeman, New York, (2010).
9. Linder, B., Elementary Physical Chemistry, World Scientific Publishing Co. Ptv. Ltd., (2011).
10. Davis, W. M., Dykstra, C. E., Physical Chemistry: A Modern Introduction, 2nd ed., CRC Press, (2011).
11. Morris, D. G., Stereochemistry (Basic Concepts in Chemistry), Wiley-RSC, (2002).
12. Mislow, K., Introduction to Stereochemistry, Dover Publications Inc., (2003).
13. David M., Stereochemistry (Tutorial Chemistry Texts), Royal Society of Chemistry, (2002).
14. Furniss, B. S., Hannaford, A. J., Smith, P. W. G., Tatchell, A. R., Vogel's Textbook of Practical Organic Chemistry, 5th ed., Longman, UK, (1989).
15. Mohan J., Organic Analytical Chemistry, Theory and Practice, 1st ed. Alpha Science International, Ltd. (2003).
16. Seiler, J. P., Good Laboratory Practice: The Why and the How, 2nd ed., Springer, (2005).
17. Brown, W. H., Fotte, C. S., Iverson, B. L. and Anslyn, E. V., Organic Chemistry, 6th ed., Brooks/ Cole Cengage Learning, (2012).
18. Solomons, T. W. G. and Fryhle, C. B., Organic Chemistry, 10th ed., John- Wiley & Sons, Inc., (2011).
19. Pavia, D. L., Kriz, G. S., Lampman, G. M. and Engel, R. G., A Microscale Approach to Organic Laboratory Techniques, 5th ed., Brooks/ Cole Cengage Learning, (2013).
20. Eames, J. and Peach, J. M., Stereochemistry at a Glance, Blackwell Science, Ltd., (2003).
21. Eliel, E. L., Wilen, S. H. and Doyle, M. P., Basic Organic Chemistry, John-Wiley & Sons, Inc., (2001).
22. Eliel, E. L. and Wilen, S. H., Stereochemistry of Organic Compounds, John-Wiley & Sons, Inc., (1994)

BS in Chemistry

Course-IV

Course Title: General (Life: Chemical Perspective) Course Code:
BIOL-03301

Credit Hours: 3

Purpose of the Course and Approach to the Subject:

The course is a foundation level course and it will focus on introduction to the Chemistry of life to provide an understanding of the cell structure and function. Most of the course will focus on chemical components discussing cell organization, composition of sub-cellular organelles and their role in the life of a cell, the macromolecules: carbohydrates, lipids and proteins; their nature and structure, expression of genetic information, recombinant DNA technology and its utilization in Health, Agriculture and Environment.

Course Contents:

Introduction to Chemical composition of living entities. Historical perspectives, Cell structure and function. Cell organization. Cell wall and the related structures. Fundamental Principles of Bioenergetics. Chemical Equilibria and principles of thermodynamics. Introduction to Bio-molecules. Introduction to Carbohydrates. Classification, nomenclature and biological significance of carbohydrates. Monosaccharides and isomerism. Physical and chemical properties of carbohydrates. Reactions of Monosaccharides, Oligosaccharides and Polysaccharides. Qualitative analysis of carbohydrates. Introduction to lipids. Classification and biological significance of lipids. Physical and chemical properties of lipids. Acid value, saponification value, iodine value etc. Protein chemistry. Amino acids, the building blocks. Classification of amino acids. Physical and chemical properties of amino acids. Classification of proteins. Protein structure. Introduction to Nucleic acids. Nitrogenous bases. Nucleosides. Nucleotides. Structure of DNA and RNA. Storage of the genetic information. Nucleus. Chromatin. Chromosomes. Flow of genetic information: Central Dogma and Gene expression. The processes involved in the transfer of genetic information. Replication. Transcription. Translation. Regulation of Gene expression and its manipulation. Recombinant DNA technology. Introduction to Plasmids, Cosmids, Vectors, Transposons, Restriction endonucleases. Gene Cloning, Genetic Engineering, Transformation, Transgenic plants and animals. Introduction to Microbiology. Fermentation and its industrial application. Introduction to Experimental methodologies in biochemistry and biotechnology. Microscopy. Isolation of cells and organelles. Centrifugation and fractionation. Spectrophotometry. Chromatography. Precipitation. Dialysis. Autoradiography. Radioactive and non-radioactive tracers. Electrophoresis. Lyophilization.

Recommended Books:

1. Harper's Illustrated Biochemistry by R.K. Murray, D.K. Granner and V.W. Rodwell. 27th Edition. 2006.
2. Lippincott's illustrated reviews. Biochemistry. 3rd Edition. Series editors: R.A. Harvey and P.C. Champe. 2005. Lippincott Williams and Wilkins, USA
3. Voet, D., Voet, J.G., Pratt, C.W. 2008. Principles of Biochemistry. Hoboken, John Wiley & Sons, Inc. 3rd Edition
4. Thieman, W. 2009. Introduction to Biotechnology. 2nd Edition. Pearson Education India, New Dehli, India

BS in Chemistry

Course-V

Course Outline of EDUCATIONAL THOUGHTS for BS CHEMISTRY (3 CREDIT HOURS)

OBJECTIVE: This course is designed to enhance the learners' understanding of educational thoughts, philosophical foundations, and chemistry education.

#chapter 1= INTRODUCTION TO EDUCATION

- Meaning of education
- Scope of education
- Types of education

#chapter 2= FOUNDATIONS OF EDUCATION

- The philosophical foundation of education
- The psychological foundation of education
- The sociological foundation of education
- The historical foundation of education

#chapter 3= PHILOSOPHIES OF EDUCATION

- Idealism
- Realism
- Perennialism
- Essentialism
- Pragmatism
- Progressivism
- reconstructionism

#chapter 4= EASTERN EDUCATIONAL THOUGHTS

- Abu Bakar Muhammad Ibn Zakarriyya al Razi
- Al-Ghazzali
- Ibn Khaldun
- Shah Waliullah
- Muhammad Iqbal

#chapter 5= WESTERN EDUCATIONAL THOUGHTS

- Socrates
- Rousseau
- Pestalozzi
- Froebel
- Maria Montessori

#chapter 6= CHEMISTRY EDUCATION

- History of chemistry education
- Importance of chemistry education
- Current issues
- Use of ICT in chemistry education

BS in Chemistry

Course-VI

Course Title: Environmental Chemistry

Course Code: ENVI-03303

Credit Hours:3

Objectives of the Course:

From this course, the students should be able to:

- Understand the fundamental principles of environmental chemistry.
- Apply these principles in pollution related subjects.
- Demonstrate the understanding of environmental chemistry principles via experimental exercises in the laboratory.

Course Outlines: Atmospheric

Chemiser

The air around us, atmospheric temperature and pressure profile, Temperature inversion and photochemical smog, particulate matter in the atmosphere, Industrial pollutants, radioactivity, atmospheric aerosols, Acid rain –major sources, mechanism, control measures and effects on buildings and vegetation, Global warming – major greenhouse gases, mechanism, control measures and global impact, The stratospheric ozone –the ozone hole, CFCs, ozone protection, biological consequences of ozone depletion.

Water Pollution and Water Treatment– sources of water pollution-industrial sources and agricultural sources, heavy metals contamination of water, Eutrophication, detergents and phosphates in water, water quality criteria, Water purification – primary, secondary and advanced treatment, Removal of nitrogen and phosphorous compounds from polluted water, organic matter in water and its decomposition.

Soil Pollution– soil and mineral resources, general principles of metal extraction, Heavy metals contamination of soil, toxicity of heavy metals, bio-accumulation of heavy metals, Organic matter in soil, Macro and micro-nutrients in soil, ion-exchange in soil, soil pH and nutrients availability.

Green Revolution– pest control, pesticides, toxicity of pesticides, integrated pest's management. Energy Production and Environment– liquid and gaseous fuel, hydrogen economy. Renewable Energy– nuclear energy, solar energy, geothermal and tidal energy.

Recommended Books:

Latest editions of the following books:

1. Collin Baird, Environmental Chemistry, W. H. Freeman and company, New York, 1995.
2. John W. Moore and Elizabeth A. Moore, Environmental Chemistry, Academic Press Inc., New York, 1976.
3. Anil Kumar De, Environmental Chemistry, Wiley Eastern Ltd. New Delhi, 1989.

4. R. W. Raiswell, P. Brimblecombe, D. L. Dent and P. S. Liss, Edward Arnold Ltd., London, 1980.
5. Stanley E. Manahan, Environmental Chemistry, Brooks, California.
6. Peter O. Neill, Environmental Chemistry, Chapman and Hall, London, 1993.
7. Derek M. Elsom, Atmospheric Pollution, Blackwell Publishers, Oxford, 1992.

BS in Commerce

Course-I

BUSINESS LAW

Credit Hours 3

Pre-Requisite

NONE

Semester

III

Objectives

This course is intended to:

- ☐ ☐ Acquaint students with Legal System of Pakistan
- ☐ ☐ Familiarize the students with the different Mercantile Laws affecting the economic and business environment in Pakistan.
- ☐ ☐ Make students understand the important elements and aspects of business and industrial laws.
- ☐ ☐ Enable the students to assess the nature and Impact of certain types of rules and regulations by analyzing the cases referred to in the recommended books/sources.
- ☐ ☐ Equip the students with the necessary skills and aptitude to deal tactfully with the legal situations arising out of business routine matters.

COURSE OUTLINE

1. LEGAL SYSTEM OF PAKISTAN

Meaning of Legal System; Major Components / Divisions of Legal System of Pakistan; Comprehensive Analysis of Legal System of Pakistan; Factors of Economic Development w.r.t to Pakistan; Various Measures / Strategies to enhance Economic Growth

2. BUSINESS LAW

Nature of Business Law; Major Sources of Business Law; Application / Use of Business Law;

3. CONTRACT ACT, 1872

Proposal and Acceptance including Legal Definition, and Meaning, Communication of Offer and Acceptance, Revocation of Offer and Acceptance;

Agreement and Contract including Legal Definition, Meaning, and Difference, Legal Capacity to make a Contract, Major Classification and Kinds of Contracts, Essential Elements / Ingredients of a Valid Contract, Trinity of a Contract.

Legal Rules pertaining to Consideration, and Exceptions thereof, Major Types of Void Agreements.

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Flaws in Contracts, Free Consent, and its Flaws (Coercion, Undue Influence etc.), Doctrine of Frustration of Contract.

Quasi Contract, and its Types, Contingent Contract, and its Types, Performance of Contracts including Reciprocal Promises

Breach and Discharge of Contracts, Remedies for Breach of Contract

Contracts of Indemnity and Guarantee covering Legal Definition, Meaning, and Difference, Rights and Liabilities of Indemnity-holder, Consideration for Guarantee, Nature and Extent of Surety's Liability, Continuing Guarantee, and its Revocation, Rights of Surety, Discharge of Surety from Liability

Law of Agency covering Legal Definition, and Meaning, General Rules of Agency, Eligibility to employ an Agent, and Eligibility to become an Agent, Necessity of Consideration for Agency, Classification of Agents, Modes of Creation of Agency, Extent of Agent's Authority, and Delegation of Authority, Distinction

between Sub-agent and Substituted Agent, Duties and Rights of Agent, Personal Liability of Agent to Third Parties, Rights and Duties of Principal, Liability of Un-named, and Un-disclosed Principal, Modes of Termination of Agency

Bailment and Pledge including Essential features, and parties; Rights and duties of parties; Termination of pledge and Bailment

4. PARTNERSHIP ACT, 1932

Nature of Partnership including Legal Definition, and Meaning of Partnership and Firm, Essential Elements Formation of Partnership, and Ancillary Provisions; Pre-requisites to form Partnership, Partnership Deed, and its Constituents, Classification of Partnership, Kinds of Partners, Status of a Minor admitted to the Benefits of Partnership, Registration of a Firm, and its Rationale (i.e. Effects of Non-registration), Rights and Duties of Partners, Relations of Partners to Third Parties, and Liabilities thereto, Incoming and Outgoing partners

Dissolution of Partnership Firm covering Dissolution of Partnership, and Dissolution of Firm, Modes of Dissolution of a Firm, Classification of Partnership, Kinds of Partners, Status of a Minor admitted to the Benefits of Partnership

5. SALE OF GOODS ACT, 1930

Contract of Sale of Goods covering Legal Definition, and Meaning of a Contract of Sale, Essential Elements of a Contract of Sale, Distinction between Sale and Agreement to Sell, Classification (Kinds) of Goods, The Provisions pertaining to 'Price'

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Conditions and Warranties covering, Legal Definition of Condition and Warranty, The Distinction between them thereof, Conditions and Warranties (Express and Implied) in a Contract of Sale

Provisions pertaining to 'Transfer of Property'

Performance of a Contract of Sale including Legal Definition, and Meaning of 'Performance' in a Contract of Sale, Modes of Delivery, Acceptance of Delivery by Buyer, Sale by non-owner

Remedial Measure in a Contract of Sale, Legal Definition, and Meaning of 'Unpaid Seller' in a Contract of Sale, Rights of an 'Unpaid Seller', Rights of a Buyer against Seller, Auction Sale, and Legal Provisions regarding it

6. NEGOTIABLE INSTRUMENTS, 1881

Nature and Meaning of Negotiable Instruments including Legal Definition, and Meaning of a Negotiable Instruments, Characteristics of Negotiable Instruments, Presumptions as to Negotiable Instruments Classification (Kinds) of Negotiable Instruments; Promissory Notes Definition, and Essential Elements, Bill of Exchange Definition, and Essential Elements, Cheque Definition, and Essential Elements, Hundi Definition, and Meanings

Parties to Negotiable Instruments: Holder Meanings, and Features; Holder-in-due-course Meanings, and Features; Capacity of Parties

Presentment of Negotiable Instruments: Presentment for Acceptance; Presentment for Sight; Presentment for Payment

Negotiation of Negotiable Instruments: Definition, Eligibility for Negotiation, and Duration of Negotiability; Distinction between Negotiation and Assignment; Modes of Negotiation; Endorsement, and its Kind

Dishonor and Discharge of Negotiable Instruments: Definition, and Meaning of Dishonor and Discharge; Modes of Dishonor (Non-acceptance and Non-payment); Discharge of the Instruments and the Parties; Modes of Negotiation

Banker and Customer Relation (Legal): Definition, and Meaning of Banker and Customer

Recommended Books:

1. Mercantile Law - Bare Acts Latest Edition
2. Mercantile Law by M. C. Kuchhal Latest Edition
3. Mercantile Law by M. C. Shukla Latest Edition

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4. Saeed, Khawaja Amjad, Mercantile and Industrial Laws in Pakistan, Institute of Business Management, Lahore Latest Edition

Reference Books:

1. Mercantile Law by Luqman Baig Latest Edition
2. Business Law by Khalid Mehmood Cheema, Sayed Mobin Mahmud & Co. Lahore Latest Edition
3. Business Law By Nazir A. Sheikh Latest Edition

4. Internet source: www.Paksearch.com

BS in Commerce

Course-II

Course	TECHNICAL WRITING AND PRESENTATION SKILLS	Credit Hours	3
Pre-requisite	Functional English and Business Communication	Semester	III
Objectives	This course is intended to create/produce: <ul style="list-style-type: none">• an understanding about Technical Writing• an understanding Communication Skills and practice of the same		

COURSE OUTLINE

- 1. Introduction to Technical Writing and its Contingent Errors**
Meanings of Technical Writing; Writing Memos (Memorandum); Writing a long and a short report; News Releases and Company Policies; Editing for errors in sentence construction (Articles, parts of speech, dangling parts etc.; Identifying Articles, and Parts of Speech, and their Correct Use
- 2. Dialogue Writing and Role-Plays (Foreword to Uninhibited Presentations)**
Everyday situations contextualized with colloquial communication; Basic Principles of Business Communication including 7 Cs of Effective; Communication; Dialogue writing and Role Plays in Daily and Business Situations
- 3. Précis Writing and Authentic Summarization**
Meanings and Important points of Paragraphs; Identifying thesis statement; Identifying evidence and biases; Writing an effective précis
- 4. Comprehension Skills**
Introduction; General Features and Components of a Comprehension Passage; General Classification of Passages (discursive, persuasive, narrative etc.; Attempting comprehension questions; Making accurate inferences
- 5. Creative Writing and Effective Brainstorming**
Defining and understanding Creative Writing; The Need Use and Significance of Creative Writing in Publications; How to effectively convey the imaginative ideas in coherent writing
- 6. Presentation Skills and Body Language**
Personality Development (emphasis on content, style and pronunciation); Professional presentations; Using presentation software tools; Delivering short addresses / speeches; Extempore speech; Technical communication; Handling telephonic and email communication; Interviewing Skills; Group discussions; Communication through role-playing; Updating Knowledge Power; Utilizing Library Sources for Presentation Knowledge Power
- 7. Feedback and Reflection**
Assessment of Students Learning through revision exercises; Feedback by students on their constructive learning of the course; Reflection for future pursuits
- 8. Essay writing**
Descriptive, narrative, discursive, and argumentative

9. Academic writing

How to write a proposal for research paper/term paper; How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency); Circulars and S.R.O. by the Government and Regulatory Institutions

10. Technical Report writing

11. Progress Report writing

Note: Extensive reading of Business-related Sections Newspapers is required for vocabulary building

Recommended books:

Technical Writing and Presentation Skills

a) Essay Writing and Academic Writing

1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Latest Impression / Edition. ISBN 0 19 435407 3 (particularly suitable for discursive, descriptive, argumentative and report writing).

BS in Commerce

Course-III

Course	INTRODUCTION TO BUSINESS FINANCE	Credit Hours	3
Pre- Requisite	NONE	Semester	III
Objectives	This course is intended to create/produce: <ul style="list-style-type: none">• an understanding of an integrated perspective for the inter- relation between financial markets, financial institutions and management• an understanding about the use/scope of Finance, Financial Management, and Financial Management Decision Making Techniques• Competence about the latest approaches/tools to critically examine and measure the performance of business concerns<ul style="list-style-type: none">• Skills to solve investment and financial problems in the light of specified goals of the firm		

COURSE OUTLINE

1. INTRODUCTION TO FINANCE

Meanings of Finance and Financial Management; Career opportunities in finance; Forms of business organization; Goals of the corporation; Agency relationships.

Financial Statements: Balance sheet; Income statement; Statement of cash flows (IAS 7); Accounting income vs. cash flow; Personal taxes; Corporate taxes

Analysis of Financial Statements and their Use: Ratio analysis; Du Pont system; Effects of improving ratios; Limitations of ratio analysis; Qualitative factors;

Forecasting Techniques: Forecasting sales; Projecting the assets needed to support sales; Projecting internally generated funds; Projecting outside funds needed; Deciding how to raise funds; Seeing the effects of a plan on ratios

Efficient Market Hypothesis and its Implication

2. TIME VALUE OF MONEY

The Role of Time Value in Finance; Time Value w.r.t. Single Amounts (Future Value and Present Value) including Simple Interest Mechanism and Compound Interest Mechanism

Time Value w.r.t. Compact Stream of Cash Flows i.e. Annuities (Future Value and Present Value) including Ordinary/Simple Annuity, Annuity Due/Outstanding, and Perpetuity

Time Value w.r.t. Mixed Stream of Cash Flows (Future Value and Present Value);

Practical Implication of Time Value of Money covering Intra-year Compounding; Nominal Vs Effective Rate of Interest; Continuous Compounding; Funds Accumulation through Regular Deposits; Loan Amortization; Finding Interest / Growth Rates.

3. FINANCIAL ASSETS / SECURITIES, AND THEIR VALUATION

Meaning and Understanding about Financial Assets; Primary Features of Financial Assets; Basic Model (Formula) / Mechanics of Valuing a Financial Asset / Security; Fundamentals of Interest Rate including Interest Rate, Required Rate (of Return), Inflation, Real Vs Nominal Rate of Interest (Return)

Term Structure of Interest Rates including Yield Curve and its Dimensions, and Yield to Maturity (YTM)

Risk and Risk Premium; Major Types of Risk w.r.t. Debt-specific Risk Premium Components (Issuer- & Issuer-related); Default, Maturity, Contractual Provision

Corporate Bonds; Nature, Definition, Features and Components, Cost of Bonds to the Issuer, Valuation of a Bond (Pricing of a Bond) – Model and Sensitivity Analysis (Price Changes); Common Types of Bonds, and their respective Features;

Stocks, and Equity; Nature, Definition, Features and Components; Debt Vs Equity; Common Stock Vs Preferred Stock; Preferred Stock Valuation; Authorized / Registered Capital; Issued, Subscribed and Paid-up Capital; Classification of Preferred Stock; Concept, and Process of IPO w.r.t. Pakistan

Efficient Market Hypothesis, and Market Efficiency; Basic Model for Common Stock Valuation; Major Types of Valuation Models for Common Stock including Zero-growth Model, Constant-growth Model, Variable- growth Model

Other Approached of Valuation for Common Stock including Book Value, Liquidation Value, Price/Earnings Multiples

4. CAPITAL INVESTMENT, ITS VALUATION, AND INVESTMENT DECISION MAKING

Capital: Sources of Capital and Cost of Capital, and Determination of the Cost of Capital, Optimal Mix of Capital Sources

Meanings, and Nature of Investment (Relevant Assets), Meanings of Capital Budgeting, Fundamentals of Capital Budgeting including Motives for capital expenditure, Process of capital budgeting

Basic Terminology covering Independent Projects versus Mutually Exclusive Projects, Unlimited Funds versus Capital Rationing, Accept-Reject versus Capital Rationing, Accept-Reject versus Ranking Approaches

Overview of Capital Budgeting Techniques: (1) Payback Period 1st Technique, Decision Criteria, Pros and Cons of Payback Analysis; (2) Net Present Value (NPV) 2nd Technique, NPV and Profitability Index, NPV and Economic Value Added; (3) Internal Rate of Return (IRR) 3rd Technique, Calculating the IRR through Interpolation

Comparing NPV and IRR Techniques: (1) Net Present Value Profiles, and (2) Conflicting Rankings including Reinvestment Assumptions, Timing of the cash flow, Magnitude of the Initial Investment.

5. CAPITAL BUDGETING CASH FLOWS

- **Capital Budgeting Process:** An overview and Understanding
- **Relevant Cash Flows:**
 - Major Cash Flow Components
 - Expansion VS Replacement Decisions
 - Sunk Costs and Opportunity Costs
- **Finding the Initial Investment:**
 - Installed Cost of New Asset
 - After-tax Proceeds from Sale of Old Assets
 - Change in Net Working Capital
 - Calculating the Initial Investment
- **Finding the Operating Cash Flows**
 - After-tax Meanings and Use
 - Estimating Project “After Tax Incremental Operating Cash Flows”
- **Finding the Terminal Cash Flows**
 - Proceeds from Sale of Assets
 - Taxes on Sale of Assets
 - Change in Net Working Capital
- **Project Evaluation & Selection: Alternative Methods**
 - Project Monitoring: Progress Reviews & Post Completion Audits
 - The Problem of Project Risk
 - Total Project Risk
 - Contribution to Total Firm Risk: Firm Portfolio Approach
 - Managerial Options

Recommended Texts:

1. Principles of Managerial Finance by Lawrence J. Gitman Latest Edition
2. Fundamentals of Finance by Van Horne Latest Edition
3. Melicher, W.R & Norton, A.E, (Latest Edition), Finance, John Wiley and Sons, Inc.

Reference Texts:

1. Peirson, Graham & Brown, Rob (Latest Edition), *Business Finance*, McGraw-Hill, Sydney.
2. Block, Stanley B. & Hirt, Geoffrey A, (Latest Edition), *Business Finance*, Irwin Book
3. Question & Answer Series by Schuam

2. College Writing Skills by John Langan. McGraw-Hill Higher Education — Latest Edition.
3. Excellence in Business Communication by Join V Thill Courtland L Bove's published by Prentice-Hall International Inc.
4. Oxford English for Undergraduates by D.H. Howe, T.A. Kirkpatrick, D.L., Kirkpatrick published by Oxford University Press
5. Patterns of College Writing (Latest Edition) by Laurie G. Kirszner and Stephen R. Mandell. St. Martin's Press.

b) Presentation Skills

c) Reading

The Mercury Reader. A Custom Publication. Compiled by northern Illinois University. General Latest Editors: Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).

BS in Commerce
Course-IV

Course	ADVANCED ACCOUNTING – I	Credit Hours	3
Pre-Requisite	Financial Accounting	Semester	III
Objectives	<ul style="list-style-type: none"> • Preparation of Financial Statements of Companies in accordance with statutory requirements of Companies Ordinance and International Financial Reporting Standards (IFRS) / International Accounting Standards (IAS) with appropriate notes to a preliminary extent, • Compute working capital ratios for business sectors. • Identify and explain Reasons for Profit Appropriation, • To learn about practical Implication of IAS-16, 18 and 38 • Application and selection of accounting techniques and procedures to specific circumstances like leases, branches, departmental stores, consignment, joint venture and construction contracts. • prepare accounts and financial statements of joint venture, partnership, branches & departmental types of businesses, • Identify and explain reasons why any loss/gain is debited or credited to retained earnings, • Prepare a statement of changes in Equity 		

Course Outline

1. PREPARATION OF FINAL ACCOUNTS UNDER THE PROVISIONS OF COMPANIES ORDINANCE 1984 AND IFRS/IAS

- a. Conceptual Framework concerning Presentation Requirements of relevant IFRSs / IASs; 4th & 5th Schedule of Companies Ordinance, 1984 as to contents and presentation of Financial Statements
- b. General Trading and Profit and Loss Account, Profit and Loss Appropriation Account, Concept of 'Statement of Comprehensive Income', and Balance Sheet
- c. Statement of Changes in Owners' Equity (with concept of negative Equity) and Cash Flows Statement (w.r.t. IAS-7)
- d. Certain ancillary concepts including Off Balance Sheet Items, Residual Equity etc.
- e. Treatment of the following Items;

i. Issue of Shares ii. Cash Dividends iii. Right Shares and Bonus Issue iv. Reserves v. Govt. Levies (especially Sales Tax) vi. Prior Period Adjustments vii. Excise Duty and Sales Tax	viii. Long Term Loans and their current Maturity ix. Bad Debts & Provisions x. Workers Profit Participation Fund xi. Workers' Welfare Fund xii. bank margins and guarantees including Commitments and Guarantees
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2. DEPARTMENTAL ACCOUNTING

Departmental Accounting an Introduction, Accounting Systems for maintaining Departmental Accounts, Advantages of Departmental Accounts, Profit and Loss Account, Allocation of Departmental Expenses, Inter-departmental Transfers — Cost or Market Price Basis, Accounting treatment of unsold stock with the departments

4. BRANCH ACCOUNTING

Nature and Operational System of a Branch, Its Comparison with Department, Accounting Systems for Depended Branches, Independent Branches and Head Office Reconciliation, Inter-branch Transactions, Issues with Wholesale Branch

1. ACCOUNTING FOR JOINT VENTURE

Nature of Joint Venture Enterprises, Accounting Treatment — When separate books of accounts are maintained, and When separate books are not maintained, Memorandum Recording Methods, Profit or Loss Computation

2. PARTNERSHIP ACCOUNTING

(Selected Topics – Formation, Admission & Goodwill Calculation)

Features and Formation of Partnership, Distribution of Profits among Partners, Changes in Partners' Sharing Ratios, Partners' Capitals and their Kinds, Accounting Treatment for Issues on Admission of a Partner, Calculation of Goodwill under Partnership

3. PROPERTY, PLANT AND EQUIPMENT w.r.t. IAS-16

Definitions provided in IAS-16; Methods of Depreciation and Change of Method, and its implications; Revision of Life of an Asset, and its implications; Accounting for Disposal and Exchange of an Asset, Disclosure Requirements.

4. REVENUE RECOGNITION w.r.t. IAS-18

Scope, and Definitions; Measurement of Revenue; Identification of the Transaction; Sale of Goods; Rendering of Services; Interest Royalties and Dividends.

5. INTANGIBLE ASSETS w.r.t. IAS-38

Definitions and Concepts; Recognition and Measurement; Internally Generated Intangible

Assets; Research Phase and Development Phase; Practical Implications of the IAS through practice of some basic Illustrations.

Recommended Texts:

1. International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) Latest Edition by ICAP
2. Kieso, Weygandt, and Warfield (Latest Edition) Intermediate Accounting, Latest Edition Wiley Higher Education.
3. Javed H. Zuberi , “Advanced Accounting”, Latest Edition, Petiwala Book Depot.
4. An Insight into IFRSs by Mohyuddin Tahir

Recommended Texts:

1. Gateway to IFRS Latest Edition
2. Mukherjee A. Hanif, “Modern Accountancy”, Volume I & II. Latest Edition.

BS in Commerce Course-V

Course	ECONOMIC ISSUES OF PAKISTAN	Credit Hours	3
Pre-Requisite	Micro Economics and Macro Economics	Semester	III
Objectives	<p>This course has been designed to:</p> <ul style="list-style-type: none"> • Enable the students understand and comprehend the real life issues of the Economy of Pakistan • Enable the students to have an insight into the policies of the Government of Pakistan, and the State Bank of Pakistan along with Ministry of Finance • Enable the students go through the data available in the latest Economic Survey of Pakistan and the federal government's Budget documents, and to relate it to the economic and social indicators of industrially Developed Economies and the SAARC countries 		

COURSE OUTLINE

1. ECONOMIC DEVELOPMENT

Meaning of Economic Growth and Development, and the Difference; Significance of Development Economics; Factors of Economic Development (General); Factors of Economic Development w.r.t to Pakistan; Various Measures / Strategies to enhance Economic Growth;

2. AGRICULTURAL ISSUES:

Food security; Productivity of Land; Non-Farm employment Opportunities; Forest and Water Management; Price Support Policy; Agricultural Inputs and their impact on Cost of Production

3. INDUSTRIAL ISSUES:

Large Scale; SME and Cottage Industry; Export Industry vs Import Substitution; Public-Private partnership; Industrial Policy

4. OTHER VITAL CHALLENGES / ISSUES OF THE ECONOMY:

- a) Minerals and Mining;
- b) Energy Resources;
- c) Transport: Issues - Air, Railways; Roads; Sea; Farms to Market Roads; Communication;

- d) Education and Skill Development: Issues; Basic Education; Vocational and Technical; Higher Education;
- e) Health: Issues in Health Sector; Environmental pollution and Human Health; Housing: Issues and Remedies
- f) Poverty: Definitions; measurement and alleviation strategies; HDI (Human Development Index)
- g) Energy Crisis in Pakistan: Current Scenario; Energy as a Backbone of an Economy (Real Market); Causes of Energy Fiasco (Historical and Political Perspective); Measures to Improve

5. FOREIGN TRADE:

Foreign Trade and Balance of payments: Exports; Imports; Direction of Trade; Classification of Imports and Exports; Terms of trade; Rectification of BOP; Bilateral and Multi-lateral Trade

6. MAJOR MACRO ECONOMIC ISSUES AND POLICIES:

- a) Federal Budget and Fiscal Policy
- b) Public Debt (External) and Debt Management Strategies of Pakistan
- c) Monetary Policy and Inflation

7. OTHER CONTEMPORARY ISSUES OF PAK ECONOMY

- a) Terrorism, and Terrorism Financing,
- b) Money Laundering
- c) Brain Drain
- d) Trade Policies
- e) Services Industry
- f) Higher Education
- g) Energy Crises
- h) Governance and Accountability etc.

8. INTERNATIONAL SCENARIO:

- a) WTO and Pakistan
- b) SAFTA and Regional Cooperation
- c) Role of Direct Foreign Investment in Economic Growth of Pakistan
- d) International Financial and Economic System and its Implications for Pakistan

Recommended Books:

1. Economic Survey of Pakistan (Latest). Ministry of Finance, Government of Pakistan, Islamabad
2. Pakistan Golf and Economist (The Economist)
3. Daily Business Recorder
4. Daily The Dawn Editorial and Business Sections

5. Federal Bureau of Statistics (Statistical Survey)
6. Zaidi, Akbar, Issues in Pakistan's Economy. Oxford University Press, Karachi
7. Husain Akmal, Dr. and Others. Pro-Poor Growth and Governance in South Asian Economies.
8. Hussain, Dr. Ishrat. Pakistan: The Economy of an Elitist State. Oxford University Press, Karachi
9. Kardar, Shahid. Political Economy of Pakistan. Progressive Publishers, Lahore
10. Saeed, Khawaja Amjad, the Economy of Pakistan, Karachi: Oxford University Press, Latest Edition.
11. Khan, Shahrukh R., 50 Years of Pakistan's Economy Traditional Topics and Contemporary Concerns. Oxford University Press, Karachi, Latest Edition.
12. Chaudhary M. Aslam and Ahmad Eatraz: Globalization, WTO and Trade Liberalization in Pakistan, Feroze Sons, Lahore, Latest Edition.

Reference Books:

1. Nasim Anjum (ed.) Financing the Development Priorities of Pakistan in 1990's. LUMS, Lahore
2. Poverty Alleviation Strategies of Government of Pakistan, Government of Pakistan, Islamabad - Latest Edition
3. Reports of State Bank of Pakistan. State Bank of Pakistan Publications, Karachi
4. Reports of Statistical Division of Pakistan. Government of Pakistan, Islamabad
5. Sen, Amratia. Poverty and Famine. McMillan Publications - Latest Edition
6. Yearly World bank Reports (Latest Edition). Oxford University Press, Washington D.C.

BS in Commerce Course-VI

Course	INTRODUCTION TO PSYCHOLOGY AND ORGANIZATIONAL BEHAVIOUR	Credit Hours	3
Pre-Requisite	NONE	Semester	III
Objectives	<p>This course is intended</p> <ul style="list-style-type: none"> • To equip the student with latest Literature and Techniques of Psychology • To introduce the Basic Psychological Aspects / Dimensions to the students • To evaluate New Claims about Psychology by knowing Psychological Facts and Standards for Scientific Evidence • To Apply theory to application, demonstrating an understanding of the theoretical knowledge base of organizational behaviour • To Analyze how individual and group behaviours act as building blocks to organizational behaviour • To Research and analyze aspects of organizational behaviour • To Analyze team behaviour and its effect on productivity • To Communicate and interact with team members 		

COURSE OUTLINE

1. PSYCHOLOGISTS AT WORK:

Meanings, Use/Scope of Psychology; Subfields of Psychology; Working at Psychology; Exploring Diversity; Becoming an Informed Consumer of Psychology

2. NEURONS: THE BASIC ELEMENTS OF BEHAVIOUR:

The Structure of the Neuron; How Neurons Fire; Where Neurons Meet; Bridging the Gap; Neurotransmitters: Multitalented Chemical Couriers

3. THE NERVOUS SYSTEM

Central and Peripheral Nervous Systems; The Evolutionary;
Foundations of the Nervous System; Behavioural Genetics

4. THE BRAIN:

Studying the Brain's Structure and Functions: Spying on the Brain

5. SENSING THE WORLD AROUND US:

Illuminating the Structure of the Eye; Colour Vision and Colour Blindness

6. HEARING AND THE OTHER SENSES:

Sensing Sound; Applying Psychology in the 21st Century;
Smell and Taste; The Skin Senses

7. PERCEPTUAL ORGANIZATION :

The Gestalt Laws of Organization; Feature Analysis; Top-
Down and Bottom-Up Processing; Perceptual Constancy;
Depth and Motion Perception, perceptual illusions and
subliminal perception

8. STATES OF CONSCIOUSNESS :

Sleep and Dreams: The Stages of Sleep; The Function and Meaning of
Dreaming; Sleep Disturbances; Circadian Rhythms; Daydreams;
Becoming an Informed Consumer of Psychology; Hypnosis and
Meditation; Drug Use: The Highs and Lows of Consciousness

9. LEARNING:

Classical Conditioning; Operant Conditioning;
Cognitive-Social Approaches to Learning

10. MEMORY:

Encoding, Storage, and Retrieval of Memory; Recalling
Long-Term Memories; Forgetting: When Memory Fails

11. COGNITION AND LANGUAGE:

Thinking and Reasoning; Problem Solving; Language

12. INTELLIGENCE:

What Is Intelligence? And Variations in Intellectual Ability

13. MOTIVATION AND EMOTION:

Explaining Motivation; Human Needs and Motivation: Eat, Drink, and Be Daring; Understanding Emotional Experiences; Nonverbal Behaviour and the Expression of Emotions

14. SOCIAL PSYCHOLOGY:

Attitudes and Social Cognition; Social Influence; Prejudice and Discrimination; Positive and Negative Social Behaviour

15. INTRODUCTION TO ORGANIZATIONAL BEHAVIOUR:

Environmental and Organizational Context; Environmental Context including Information Technology & Globalization; Organizational Context: Design, Structure and Culture; Cognitive Process of Organizational Behavior; Perception and Attribution; Personality and Attitudes; Motivational Needs and Processes

16. DYNAMICS OF ORGANIZATIONAL BEHAVIOUR

Communication; Decision Making; Stress and Conflict; Power and Politics; Building Teams Group Dynamics and Teamwork; Valuing Diversity-Individual Differences;

Managing and Leading for Higher Performance; Managing Performance through Job Design and Goal Setting; Behavioral Performance Management; Effective Leadership Processes; Great Leaders: Styles, Activities and Skills

Recommended Text:

1. Luthans Fred., Organizational Behavior, Latest Edition, McGraw-Hill.
2. Feldman, Robert S, Understanding Psychology, Latest Edition. McGrawHill, Boston
3. John R. Schermerhorn, (Latest), Management and Organizational Behavior Essentials, Wiley & Sons.
Robbins P. Stephen. (Latest), Organizational Behavior, Latest Edition, Prentice Hall

BS in Computer Science Course-I

Data Structures & Algorithms					
Credit Hours:	3+1	Course Code:	COSC-2101	Prerequisites:	COSC-1102
Course Learning Outcomes (CLOs):					
At the end of the course the students will be able to:				Domain	BT Level
1. Implement various data structures and their algorithms, and apply them in implementing simple applications.				C	2
2. Apply the knowledge of data structures to other application domains.				C	3
3. Analyse simple algorithms and determine their complexities.				C	4
4. Design new data structures and algorithms to solve problems.				C	5
* BT= Bloom's Taxonomy, C=Cognitive domain, P=Psychomotor domain, A= Affective domain					
Course Content:					

Abstract data types, Complexity Analysis, Big-O notation, Stacks (Linked Lists and Array Implementations), Recursion and Analysing Recursive Algorithms, Divide and Conquer algorithms, Sorting Algorithms (Selection, Insertion, Merge, Quick, Bubble, Heap, Shell, Radix, Bucket), Queue, Dequeue, Priority Queues (Linked and Array Implementations of Queues), Linked List & its Various Types, Sorted Linked List, Searching an Unsorted Array, Binary Search for Sorted Arrays, Hashing and Indexing, Open Addressing and Chaining, Trees and Tree Traversals, Binary Search Trees, Heaps, M-way Tress, Balanced Trees, Graphs, Breadth-First and Depth-First Traversal, Topological Order, Shortest Path, Adjacency Matrix and Adjacency List Implementations, Memory Management and Garbage Collection.

Teaching Methodology:

Lectures, Written Assignments, Practical Labs, Semester Project, Presentations

Course Assessment:

Sessional Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam

Reference Material:

1. Data Structures and Abstractions with Java by Frank M. Carrano & Timothy M. Henry, Pearson, 5th Edition 2018; ISBN-13: 978-0134831695.
2. Data Structures and Algorithm Analysis in C++ by Mark A. Weiss, Pearson, 4th Edition, 2013; ISBN-13: 978-0132847377.
3. Java Software Structures: Designing and Using Data Structures by John Lewis and Joseph Chase, Pearson, 4th Edition, 2013; ISBN-13: 978-0133250121.
4. Data Structures and Algorithms in C++ by Adam Drozdek, Cengage Learning, 4th Edition, 2012; ISBN-13: 978-1133608424.
5. Data Structures and Algorithm Analysis in Java by Mark A. Weiss, Pearson, 3rd Edition, 2011; ISBN-13: 978-0132576277.

BS in Computer Science Course-II

Theory of Automata					
Credit Hours:	3	Course Code:	COSC-2105	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Explain the strength and limitations of computation models of language theory and finite automata				C	2
2. Describe and design regular expressions and automata for regular and context free languages accepting or generating a limited class of languages				C	2
3. Differentiate and manipulate formal descriptions of languages, automata and grammars				C	3
4. Apply various automata models for describing real world examples				C	4
5. Evaluate and optimize automata models and context-free grammars				C	5
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					

Introduction to Computation Theory, Review of Basic Mathematics, Defining Languages, Descriptive and Recursive Forms of Languages, Regular Languages, Regular Expressions, Deterministic Finite Automata (DFA), Nondeterministic Finite Automata (NFA), Equivalence of DFAs and NFAs, Recognition, Transition Graphs, Generalized Transition Graphs, Closure Properties, Kleene's Theorem, Applications of DFAs and NFAs, Non Regular Languages, Pumping Lemma for Regular Languages, Moore and Mealy Machines, Context Free Grammar (CFG), Context Free Languages (CFLs), Regular Grammar, Generation and Parsing, Ambiguous Grammars, Chomsky Normal Form, Pushdown Automata, Deterministic and Nondeterministic PDAs, Equivalence of Pushdown Automata and CFG, Non-Context Free Languages, Pumping Lemma for CFLs, Operations on CFLs, Decidability, Open Questions Regarding Computation, CYK Algorithm for CFLs, Computability Theory, Introduction to Turing Machine and Its Variants.

Teaching Methodology:

Lectures, Written Assignments, Practical Labs, Semester Project, Presentations.

Course Assessment:

Mid Term Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam.

Reference Material:

1. Introduction to computer theory by Daniel I. A. Cohen, Wiley India, 2nd Edition, 2007; ISBN-10: 8126513349.
2. Automata, Computability and Complexity: Theory and Applications, by Elaine Rich, Pearson, 1st Edition, 2007; ISBN-10: 0132288060.
3. An Introduction to Formal Languages and Automata by Peter Linz, Jones & Bartlett Publishers, 4th Edition, 2006; ISBN-10: 144961552X.

BS in Computer Science Course-III

Discrete Structures					
Credit Hours:	3	Course Code:	COSC-1103	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Understand logically by using basic mathematical knowledge while analyzing problems				C	1
2. Analyze mathematical models, methods and proofs				C	2
3. Build and apply mathematical models to various problems				C	3
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					

Propositional & Predicate Logic, Mathematical Reasoning, Logic Connectives & Their Applications, Laws of Logic, Rules of Inference, Contraposition, Proof by Contradiction, Proof by Implication, Circuit's Theory, Logic Connectives & Logic Gates, Set Theory, Venn Diagram, Set Identities & Venn Diagram Applications, Relations, Relation Forms & Types, Relation Representation Mechanism, Partition Orderings, Recurrence Relations, Relation Properties & Their Applications. Functions: Function Mappings, Function Composition, Inverse Functions & Recursive Functions. Sequences, Series, Counting, Permutations & Combinations, Elements of Graph Theory, Directed Graph, Weighted Graph and Its Applications, Path & Circuits, Matrix Representation of Graphs, Function & algorithms, Dividing algorithms, Comparing Different Algorithms, Time and Space Complexity of Algorithms, Data Structures: Stack, Queues, Link List, Trees, and Searching Techniques in Tree.

Teaching Methodology:

Lectures, Exercise, Practice-Problem Solving Session, Presentations.

Course Assessment:

Mid Term Exam, Home Assignments, Quizzes, Final Exam.

Reference Material:

1. Discrete Mathematics and its Applications by Kenneth H. Rosen, McGraw-Hill Education, 7th Edition, 2011;ISBN: 978-0073383095
2. Discrete Mathematics with Applications by Susanna S. Epp, Cengage Learning, 4th Edition, 2010;ISBN: 978-0495391326
3. Discrete Mathematics by Richard Johnson Baugh, Pearson, 7th Edition, ISBN: 978-0131593183

BS in Computer Science Course-IV

Software Engineering					
Credit Hours:	3	Course Code:	COSC-1104	Prerequisites:	None
Course Learning Outcomes(CLOs):					
After the completion of this course the student should be able to:				Domain	BT Level
1. Demonstrate Basic project management skills for solving real world problems.				C	2
2. Understand and be able to apply the principles of software engineering practice and process				C	3
3. Build Software using modern tools to solve real world problems.				C	3
4. Analyze Real world problems by using software engineering constructs				C	4
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
Software Engineering Introduction, Professional Software Development and Software Engineering Ethics, Challenges in Software Engineering, Software Aided Software Engineering Tools, System Development Process, Prototyping and the Process of Prototype Development, Software Development Phases, Requirement, Design, Software Models, Implementation, Integration, Evolutions, Maintenance, Development Methodology, Plan-Driven and Agile S/W Development, Validation & Verification, Rational Unified Process, Process Models, Water Fall and Agile Processes, Evolutionary Development, Component Based Reuse Oriented Development, Incremental Development and Spiral Model, Importance of Strategic Planning, System Evaluation, Requirement Engineering, Functional & Non-Functional Requirement, User & Domain Requirement, Requirement Gathering and Documentation, Requirement Engineering Process, Feasibility Study, Requirement Elicitation, Requirement Discovery, Requirement Verification & Validation, System Models, Behavioral Model, Object Oriented Model, Agile & RAD Development, Software & System Architecture, Architectural Styles and Design Element, Architectural Design & Interface Design, Component Level Design Element, Deployment Design Element, Software Testing, Unit Testing & Integration Testing, System Testing Process, Internal & External View of Testing, Release Testing, User Testing, White Box Testing Black Box Testing, Stages in Acceptance Test Process, User Testing, Acceptance or Alpha Testing, Interface Testing, Software Project Management, Activity Related To SPM, Proposal Writing, Planning & Scheduling, Project Cost, Project Cost Management					
Teaching Methodology:					
Lectures, Written Assignments, Semester Project, Presentations.					

Course Assessment:

Lectures, Written Assignments, Semester Project, Presentations.

Reference Material:

1. Software Engineering by Ian Sommerville, Pearson Publishers, 10th Edition, 2015, ISBN: 13-978-0133943030
2. Software Engineering: A Practitioner's Approach by Roger S, Pressman, McGraw-Hill Education, 8th Edition , 2014, ISBN: 13-978-0078022128

BS in Computer Science Course-V

Technical & Business Writing					
Credit Hours:	3	Course Code:	ENGL-1111	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Understand the requirements and ethics of technical and business writing in the 21st Century workplace.				C	2
2. Summarize larger texts in clear, direct style for practical applications.				C	2
3. Analyzing audience, organizing documents, writing clearly and precisely with no grammar errors and presenting the document with skillful design.				C	4
4. Develop strategies for information design, to include producing visually enhanced documents.				C	6
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
<p>Overview of Technical Reporting, Use of Library and Information Gathering, Administering , Questionnaires, Reviewing the Gathered Information, Technical Exposition, Topical Arrangement, Exemplification, Definition, Classification and Division, Casual Analysis, Effective Exposition, Technical Narration, Description and Argumentation, Persuasive Strategy, Organizing Information and Generation Solution: Brainstorming, Organizing Material, Construction of the Formal Outline, Outlining Conventions, Electronic Communication, Generation Solutions, Polishing Style: Paragraphs, Listening Sentence Structure, Clarity, Length and Order, Pomposity, Empty Words, Pompous Vocabulary, Document Design: Document Structure, Preamble, Summaries, Abstracts, Table of Contents, Footnotes, Glossaries, Cross-Referencing, Plagiarism, Citation and Bibliography, Glossaries, Index, Appendices, Typesetting Systems, Creating the Professional Report; Elements, Mechanical Elements And Graphical Elements. Reports: Proposals, Progress Reports, Leaflets, Brochures, Handbooks, Magazines Articles, Research Papers, Feasibility Reports, Project Reports, Technical Research Reports, Manuals and Documentation, Thesis. Electronic, Documents, Linear Verses Hierarchical Structure Documents.</p>					
Teaching Methodology:					
Lectures, Written Assignments, Practical Labs, Semester Project, Presentations.					
Course Assessment:					
Mid Term Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam.					
Reference Material:					

1. Technical Report Writing, by Pauley and Riordan, Houghton Mifflin Company; 8th Edition, 2002. ISBN -10: 0618140166, ISBN - 13: 9780618140169
2. Effective Technical Communication by Ashraf Rizvi, Tata McGraw-Hill; 3rd Edition, 2005. ISBN-10:1259082512, ISBN-13: 9781259082511

BS in Computer Science Course-VI

Linear Algebra					
Credit Hours:	3	Course Code:	MATH-2102	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Understand mathematical expressions that involve vectors, matrices, and linear systems of linear equations.				C	2
2. Apply linear algebra concepts to model, solve, and analyze real-world situations.				C	3
3. Analyze mathematical statements and expressions for example, to assess whether a particular statement is accurate, or to describe solutions of systems in terms of existence and uniqueness				C	4
4. Evaluate mathematical expressions to compute quantities that deal with linear systems and eigenvalue problems.				C	5
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
Algebra of Linear Transformations and Matrices, Matrices and Linear Equations Matrices , Multiplication of Matrices, Homogeneous Linear Equations and Elimination, Row Operations and Gauss Elimination , Row Operations and Elementary Matrices , Linear Combinations , Determinants, Rank, Systems Of Equations, Vector Spaces, Convex Sets, Linear Independence , Dimension, The Rank of a Matrix Orthogonal Transformations, Linear Dependence, Linear Independence And Bases, The Kernel and Image of a Linear Map, The Rank and Linear Equations Again, Composition and Inverse Mappings, Eigenvalues And Eigenvectors ,Characteristic Equations, Inner Product Space And Quadratic Forms, Eigenvectors and Eigenvalues, Eigenvalues and Eigenvectors of Symmetric Matrices, Diagonalization of a Symmetric Linear Map					
Teaching Methodology:					
Lectures, Written Assignments, Practical Labs, Semester Project, Presentations.					
Course Assessment:					
Mid Term Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam.					
Reference Material:					
1. Introduction to Linear Algebra by Gilbert Strang, Wellesley-Cambridge Press; 5th Edition, 2016. ISBN-10: 0980232775 2. Advanced Linear Algebra by Nicholas Loehr, Chapman and Hall/CRC; 1 st Edition, 2014. ISBN-10:1466559012 3. Linear Algebra Applications, and Techniques by Richard Bronson, Gabriel B. Costa and John T. Saccoman, Academic Press; 3 rd Edition , 2013. ISBN-10: 97801239142					

BS in Economics

Course-I

ECON 11301: DEVELOPMENT ECONOMICS

The Study of Economic Development

Definitions: Economic development and growth, Identification of development variables, Scope and significance of development economics, Characteristics of LDC's, Measurement of economic development and growth, Per capita income approach, Quality of Life Index/HDI etc., Historical overview of world development and emerging major issues pertaining to Less Developed Countries(LDC's), Why the whole world is not developed?

Theories of Development

Classical and Neo-classical theories, Adam Smith and competitive Capitalism, Vicious circle of poverty, Stages of economic growth, Balanced and unbalanced growth, Big Push theory, Dependency theory, Structuralist's view point, Endogenous growth theory: New growth theory, Income convergence/divergence debate, Market friendly approach.

Poverty and Income Distribution

Definitions and measurement of poverty/poverty line, Poverty concepts/definitions, Absolute poverty, Relative poverty, Income approach, Expenditure approach, Basic needs approach, Poverty of Opportunities Index (POPI) and Calorie-based approach etc., Poverty indicators, Poverty by socio-economic groups, Sources, impacts and policies to combat poverty, Strategies and tools to combat poverty, Growth and income inequality in the world, Empirical evidences on poverty, Redistribution with growth, How to combat income inequality, Basic needs, Social Action Programs and poverty alleviation.

Agriculture and Industry

Agriculture vs. Industry: Development debate, Lewis' model of surplus labour, Ranis-Fei model and its critical review, Transforming agriculture, Underemployment problem, Role of agriculture: Market for industrial output, Provision of input, food, Complementarities, Productivity growth, Terms of Trade Issue and subsidies, etc., and competitiveness, Land holdings, Green Revolution and its performance, Need for industrialization, Industrialization and its financing mechanism, Problem of sectoral dualism, Why Green Revolution? The spread of Green Revolution in Pakistan and its status/contributions.

Recommended Material:

1. Balasubramanyam V., and Lall, S., (Latest Edition), Current Issues in Development Economics, McMillan, London.
2. Chaudhary M. A., and Hamid A., (1989), Human Resource Development and Management in Pakistan, Ferozsons, Lahore.
3. Chaudhary, M. A., and Eatzaz, A., (2004), Globalization: WTO, Trade and Economic Liberalization in Pakistan, Ferozsons, Lahore.

4. Chenery, H. B., and Srinivasen, (1988), Hand Book of Development Economics, Volume I & II, Amsterdam North Holland.
5. Cypher, J. M., and Dietz, J. L., (2004), The Process of Economic Development, Routledge, Taylor Francis Group, London/New York.
6. Subarta, G., (2003), Introduction to Development Economics, Routledge, Taylor and Francis Group, London/New York.
7. Herrick, B., and Kindleberger, C., (Latest Edition), Economic Development, McMillan, New York.
8. Hirshman, A. O., (1960), Strategy of Economic Development, Yale University Press.
9. Jones, H. G., (Latest Edition), An Introduction to Modern Theories of Economic Growth, McGraw Hill.
10. Mahboob-ul-Haq Center for Human Development (MHCHD), Human Development in South Asia, Annual Reports, Islamabad.
11. ----- (1999), A Profile of Poverty in Pakistan, (In Collaboration with UNDP).
12. Meier, G. M., (Latest Issue), Leading Issues in Economic Development, Oxford University Press.
13. Thirlwall, A. P., (2003/7th Edition), Growth and Development, With Special Reference to Developing Economies, Palgrave Publisher.
14. Todaro, M. P., (Latest Edition), Economic Development in the third World, Heinemann, London.

BS in Economics

Course-II

ECON -11303: INTERMEDIATE MACROECONOMICS II

Introduction

The economy in aggregate, complexities of the world of business, scope of macroeconomics, brief account of the development of macroeconomics after the world war II, concept of business cycles, boom and depression, concepts of inflation and unemployment, macroeconomics variables and their mutual relationship, macro-models and abstraction from the real economy.

Measurement of national income

The circular flow of national income, GDP and GNP, measurement of GNP: Expenditure (demand), product (Supply), and income (factor rewards) approach, value added at factor cost and market prices, personal and disposable income, per capita income, GNP as measure of welfare, injections into and leakage from the economy: saving and investment, exports and imports, domestic absorption, nominal and real income, the GDP deflator, problems in computation of national income, the underground economy, components of aggregate demand: the closed and open economy models.

Theories of consumption

Consumption as a function of income, theories of consumption: the absolute income, relative income, permanent income and life-cycle income hypotheses, kuznet's findings and reconciliation of marginal and average propensity to consume.

Saving and investment

Definition of investment, real and financial investment, autonomous and induced investment, determinants of investment: the present value, IRR and benefit –cost ratio criteria, investment demand and capital formation, Tobin's Q-theory, lags in investment demand, volatility of investment, investment by the public sector, equilibrium in the goods market, derivation of IS curve (graphic), factors affecting the position and slope of IS curve, the saving-investment gap in developing countries.

The demand for and supply of money

The demand for money, the quantity theory of money, the liquidity preference/portfolio balance approach, the supply of money: M1, M2, M3 concepts, the money supply multiplier and the role of banking system, instruments of credit control and the role of central bank, equilibrium of the money market, derivation of LM curve (graph), factors effecting the position and slope of the LM curve.

Determination of the National income

The Keynesian model for a simple two sector economy, inflationary and deflationary gaps, the concepts of multiplier, interaction of the IS and LM functions and derivation of the aggregate demand function, the impact of changes in public expenditure, taxation and money supply on aggregate demand and the rate of interest.

Recommended Material:

1. Shapiro, E. (2000), Macroeconomics Analysis- 7th Edition (2000)-Harcourt Brace Inc.
2. Froyen, Richard T (2002)., Macroeconomics Theories and Policies, Pearson Education.
3. Mankiw, Gregory N., (2000), Macroeconomics, Worth Publishers, New York.
4. Blanchard, O. (2000) Macroeconomics- 2nd edition Prentice Hall International.
5. Dornbusch, R., S. Fischer., and, R. Startz., (2004), Macroeconomics, McGraw-Hill.
6. Pakistan Economic Survey (latest), Annual reports of state bank of Pakistan, Federal and Provisional budgets (latest).

BS in Economics

Course-III

ECON 11302: COMPUTER APPLICATION

Introduction

Introduction to Computers Concepts (Types of Computers, Generations of Computers, Classification of Computers etc.). Input and Output Devices, Storage Media

Operating System (Windows)

What is an Operating System? What is Windows? Starting Windows

Organizing your Files and Folders

- Making new Folders
- Moving and Copying Items between Folders
- Copying Files and Folders to and from Floppy Disks
- Copying, Moving and Deleting Block of Files and Folders

Word Processing (Ms Word)

Word Processing and its need

Documents Operations

Spread Sheet (Ms Excel)

- Spread Sheet and its Applications

Recommended Books:

1. The Nature of Computers, by James A. O'Brien.
2. A Textbook of Computer Studies, published by NWFP Textbook Board, Peshawar.
3. Mastering Windows, by Robert Cowart.
4. Mastering Microsoft Office Professional for Windows, by Lrnnie E. Mosely and David M. Boodey.
5. Mastering Excel, by Thomas Chester & Richard H. Aklen.
6. Fundamentals of Information Technology, by Deepak Bharihoke, published by Excel Books.

BS in Economics

Course-IV

ECON 11305 AGRICULTURAL ECONOMICS

Introduction to agricultural economics

Agricultural Revolution, Importance of Agriculture, Food Safety, Agriculture vs. Industrial development debate, Current state of Agricultural Development, Brief Overview of Sources of growth, Introduction to issues in Agriculture, etc.

Structure and Characteristics of Agriculture in LDCs

Traditional Agriculture and Productivity, Access to non-labour resources, The Farming Environment: Natural Hazards and Economic Uncertainties, The Food Problem, Farm size and Productivity, Farm size in Pakistan and productivity, Commercial Farms, Impact of Agricultural Reforms on Farm size.

Role of Agriculture in Economic Development

A framework of Analysis, Product Contribution, Market Contribution, Factor's Contribution, Foreign Exchange Contribution, Agriculture vs. Industrial debate of Development.

Resource Use Efficiency and Technical Change in Peasant Culture

Efficiency of Resource Utilization, Technological Change in Agriculture, Generation of new Agricultural Technology, Factor-biased Technological Change and its Distributional Consequences, Agricultural Technical Change and Agricultural Employment: Empirical Evidences, Agricultural Resources and Technical Change in LDCs with Special Reference to Pakistan.

Supply Response

Introduction, The Cobweb Model: An illustration, Price-Supply Response in Backwards Agriculture, A simple Supply Response Model. Supply Response in the Underdeveloped Agricultural labour market specifically in Pakistan, The Concept of 'Marketed Surplus': Some Methods of Estimation. Some Criticisms of Krishna's Method and the Alternative Approach of Behrman Perennial Crops and marketed Surplus in Pakistan, Green Revolution in Pakistan and Responses, Present Status of Green revolution in Pakistan: Empirical Analysis.

Recommended Material:

- 1 Brown, L. (1971), The Social Impact of Green Revolution, New York, The Greogic Endowment for International Peace.
- 2 Capstick Margret, The Economics of Agriculture, London George Allen Unwin Ltd., Latest Edition.
- 3 Chaudhary M. Aslam, (1989), Agricultural Development and Public Policies, Izhar Sons, Lahore.
- 4 Ghatak S., and Ingersent K., Agriculture and Economic Development. (Latest Edition), Harvester Press.

- 5 Johnston, Bruce, F. & Fellir Kily. Agricultural and Structural Transformation, Economic Strategies in late Developing Countries.
- 6 Khan Mahmood-ul-Hassan (1975). The Economics of Green Revolution in Pakistan, New York, Published.
- 7 Karamat, A. (1981), Political Economy of Rural Development in Pakistan, Lahore Vanguard Book House.
- 8 Shafi M., (1995), Pricing of Farm Produce in Pakistan, Objectives, Practices and Experiences. Print Associates International, Islamabad.
- 9 Thorbake Erike (1971). The Role of Agriculture in Economic Development, New York, Columbia University Press.
- 10 Colman D. and Young T. (1989), Principles of Agricultural Economics, Markets and Prices in Less Developed Countries, Cambridge University Press.
- 11 Yujiro Hayami and Vernon W. Ruttan, Agricultural Development, John Hopkin University Press, London. (Latest Edition)

BS in Economics

Course-V

The Islamia University of Bahawalpur

Department of English

Course: Communication and Presentation Skills

Credit Hour 3

Course Contents: Mid-term

Week 1: Introduction

- Understanding the purpose of Communication
- Analyze the Audience
- Communicating with words as well as with body language
- Writing with a Purpose

Week 2: Presentation skills

Week 3: Delivering your presentation/ Communicating Effectively

Week 4: Speaking with Confidence

Week 5: Working with visual aids

Week 6: Individual Presentations

Week 7: presentation and Speaking Skill (practical exercises)

Course Contents: Final-term

Week 8: Communicating Effectively

Week 9: Professional Communication: Job Interviews and Communicating Skills

Week 10: Communicating with Customers


Week 11: Communication in a Team


Week 12: Preparation of CV and Cover Letter

Week 13: Group Presentations

Week 14: Presentations and Speaking Skill (practical exercises)


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Suggested Readings:

- Ian Tubovsky, *Communication Skills Training: A Practical Guide to Improving Your Social Intelligence, Presentation, Persuasion and Public Speaking (Master Your Communication and Social Skills)*, edited by Kover to Kover ; Kindle Edition,
- Carnegie, Dale. (). *How to Win Friends & Influence People*.
- Giblin, Les. *Skill with People*.
- Newton, Paul. *How to communicate effectively*.
- Tracy, Brian. *Speak to Win*.

BS in English

Course-I

Course Title: Introduction to Information & Computer Technology (ICT) Skills

Level: BS 3rd

Course Code: GC201

Course Description

Information technology literacy has become a fundamental requirement for any major. An understanding of the principles underlying digital devices, computer hardware, software, telecommunications, networking and multimedia is an integral part of any IT curriculum. This course provides a sound foundation on the basic theoretical and practical principles behind these technologies and discusses up to date issues surrounding them including social aspects and how they impact everyday life.

Course Objectives

- Understand the fundamentals of information technology
- Learn core concepts of computing and modern systems
- Understand modern software programs and packages
- Learn about upcoming IT technologies

Course Contents

Basic Definitions & Concepts, Hardware: Computer Systems & Components. Storage Devices, Number Systems, Software: Operating Systems, Programming and Application Software, Introduction to Programming, Databases and Information Systems, Networks, Data Communication, The Internet, Browsers and Search Engines, The Internet: Email, Collaborative Computing and Social Networking, The Internet: E-Commerce, IT Security and other issues, IT Project.

Required Skills

These basic competencies are assumed on the first day of class. Students must assume responsibility for learning these skills if he/she does not already possess them. If an instructor finds that you do not have the required skills and knowledge, you may be asked to withdraw from the course.

1. Basic Knowledge of Computers

- Understand basic computer hardware components and terminology
- Understand the concepts and basic functions of a common computer operating system
- Start up, log on, and shut down a computer system properly
- Use a mouse pointing device and keyboard
- Use Help and know how to troubleshoot routine problems
- Identify and use icons (folders, files, applications, and shortcuts/aliases)
- Minimize, maximize and move windows
- Identify common types of file extensions (e.g. doc, docx, pdf, html, jpg, gif, xls, ppt, pptx, rtf, txt, exe)
- Check how much space is left on a drive or other storage device
- Backup files
- Download and install software on a hard disk
- Understand and manage the file structure of a computer
- Check for and install operating system updates

2. Proficiency in Using Productivity Software

- Create documents of various types and save in a desired location
- Retrieve an existing document from the saved location
- Select, copy, and paste text in a document or desired location
- Print a document
- Name, rename, copy and delete files
- Understand and know how to use the following types of software programs:
 - Word processing (example: MS Word, Google Doc, Writer)
 - Presentation (example: PowerPoint, Impress)
 - Spreadsheet (example: Excel, Calc)
 - PDF reader (example: Acrobat Reader, Preview)
 - Compression software (example: WinZip, StuffIt, 7-Zip)

3. Electronic Communication Skills

- Email, using a common email program (example: MS
 - Compose, Send, Reply, Forward messages
 - Add attachments to a message
 - Retrieve attachments from an email message
 - Copy, paste and print message content
 - Organize email folders
 - Understand what an electronic discussion list is and

how to sign up and leave one (example: Listserv, Listproc)

4. Internet Skills

- Set up an Internet connection and connect to the Internet
- Have a working knowledge of the World Wide Web and its functions, including basic site navigation, searching, and installing and upgrading a Web browser
- Use a browser effectively, including bookmarks, history, toolbar, forward and back buttons
- Use search engines and directories to find information on the Web
- Download files and images from a Web page
- Understand and effectively navigate the hyperlink structure of the Web
- Understand how to keep your information safe while using the Internet

5. Moving Files

- Transfer files by uploading or downloading
- View and change folder/document security settings
- Copy files from hard disk to storage devices and vice versa

Recommended Readings

- Bruce J. McLaren, *Understanding and Using the Internet*, West Publishing Company, 610 Opperman Drive, P. O. Box 64526, St. Paul, MN 55164.
- *Computer Applications for Business*, 2nd Edition, DDC Publishing, 275 Madison Avenue, New York,
- Nita Hewitt Rutkosky, *Microsoft Office Professional*, Paradigm Publishing Company, 875 Montreal Way, St Paul, MN 55102.
- Robert D. Shepherd, *Introduction to Computers and Technology*, Paradigm Publishing Inc., 875 Montreal Way, St. Paul, MN 55102.
- Shelly Cashman Waggoner, *Discovering Computers 98*, International Thomson Publishing Company, One Main Street, Cambridge, MA 02142.

BS in English

Course-II

Course: Islamic History &

Culture Level: BS 3rd

Course Code: GC202

Course Description

This is a general introductory course about Islamic history and culture. It will necessarily entail frequent references to the rise of Islamic civilization, since the time of the Holy Prophet (PBUH) to the fall of Mughal Empire in the Subcontinent and the Ottoman Empire. Special emphasis may be given to Muslim contributions in the development of arts, crafts, sciences, medicine and particularly to the translations of Greco-Roman works of philosophy and literature; and how they contributed to the beginning of European Renaissance.

Course Objectives

The course will focus on three aspects: the formative period of Islam; its medieval achievements; and its modern situation. Upon completion, students should be able to develop their own understanding of the Islamic history, culture and religion.

Course Contents

- Introduction to History and the philosophy of history; why study history
- Pre- Islamic period. Religious, political and social systems before Islam.
- The Coming of Islam. Period of the Prophet (PBUH).
- Life at Makkah.
- The Prophet (PBUH) at Madina.
- The Caliphate and the Four Rightly-guided Caliphs.
- The Umayyad Caliphate
- The Abbasid Period.
- Umayyad Dynasty in Spain
- Islam and Muslims in India
- Definition of Culture in Islam.
- Foundations of Islamic culture.
- Islamic art, civilization and culture.
- Science, technology, philosophy and administration.

Suggested Readings

- Abdul Hakim Khalifa. *Islamic Ideology*
- Farid Esack, On Being a Muslim: Finding a Religious Path in the World Today
- Hitti, Philip K. *The History of the Arabs*
- Maududi. Syed Abul Ala. *Why Islam?*
- Mazhar-ul-Haq. *History of Islam*
- Nadvi. Abul Hassan. *Pillars of Islam.*
- Nadvi. Moeen Ud Din. *Tareekh-e-Islam*
- Nicholson. R. *The History of the Arabs.*
- Pickthall. M. M. *The Cultural Side of Islam.*
- Shustery, A. M. A. *Outlines of Islamic Culture: historical and Cultural Aspects.*

BS in English Course-III

**Course Title: Global
Poetry Level: BS 3rd
Course Code: ELL201**

Course Description

This course covers the body of contemporary poetry, its techniques, thematic concerns, and theoretical viewpoints. By focusing on salient aspects of contemporary poetics this course aims to accomplish among students a habit of alternative interpretations of contemporary intercontinental cultural and political ethos under transition. Because literary modernism brushes shoulders with colonial, postcolonial, transnational, and cosmopolitan discourses therefore this course aims to identify an emergent, contemporaneous and eclectic poetic aesthetics. Ezra Pound's call to *Make it New* remains a trusted creed of experimentation which lately has found its global adherents from Caribbean, Africa, South Asia, Ireland, and in other regions.

Course Objective

The main objectives of this course is to:

- Employ diverse methods of literary criticism such as historical, biographical, and gender criticism, and to do close reading of some of the foundational modern poets but at the same time to identify a poetic constellation comprising extensively wide-ranging voices of poetry.
- Glimpse the production of poetic discourse in places and regions where poetry in major Europe languages is no more a mere imitative exercise and the local and indigenous poets have added their voice of alterity.

Course Contents

Selected Readings (subject to eliminations)

1. Ezra Pound: *A Girl, In the Station of a Metro*
2. Robert Frost: *Home Burial, A Late Walk*
3. W.H. Auden: *In Memory of W. B. Yeats*
4. W.B. Yeats: *Leda and Swan, Easter 1916*
5. Marianne Moore: *Marriage*
6. e e cummings : *Let's Live Suddenly Without Thinking*

7. Adrienne Rich: *Living in Sin*
8. Anne Sexton: *After Auschwitz*
9. John Ashbery: *Some Trees*
10. Rita Dove
11. Martha Collins
12. Langston Hughes
13. Charles Bukowski: *Poetry Reading, Goaded the Muse*
14. Hart Crane: *To Brooklyn Bridge*
15. Ruth Padel
16. Carol and Duffy
17. Seamus Heaney: *North (1976) selections*
18. Paul Muldoon : *Meeting the British*
19. Ted Hughes: *Horses*
20. Philip Larkin: *Going Going*
21. Dylan Thomas
22. Nissim Ezekiel
23. Imtiaz Dharker: *Purdah I, Terrorist at My table*
24. Moniza Alvi: *At the Time of Partition (selections)*
25. Agha Shahid Ali: *Call Me Ishmael (selections)*
26. Pablo Neruda
27. Octavio Paz
28. Taufiq Rafat
29. Faiz Ahmed Faiz
30. John Ashbery: *Some Trees, Just Walking Around*
31. Don Paterson: *The Dead, Poetry*
32. Carol Duffy: *Ship, Havisham*
33. Derek Walcott: *A Far Cry From Africa, Love after Love*
34. Paul Muldoon : *The Frog, Hedgehog*
35. Simon Armitage: *I am very bothered*
36. Sujata Bhatt: *A different History*
37. Moniza Alvi: *At the Time of Partition (selections)*
38. Mahmood Dervish : *If I were Another*

Recommended Readings

- Bloom, Harold. *Contemporary Poets*. Yale: Bloom's Literary Criticism. 2010.
- Edmond, Jacob. *A Common Strangeness: Contemporary Poetry, Cross-Cultural Encounter, Comparative Literature*, NY: Fordham University Press, 2012.
- Pinsky, Robert. *The Situation of Poetry; Contemporary poetry and its Traditions*, Princeton University Press: New Jersey, 1976.
- Ramazani, Jahan. *Poetry and Its Others: News, Prayer, Song, and the Dialogue of Genres*, University of Chicago Press: Chicago. 2013.

- Trawick, Leonard. Ed. *Word, Self, Poem; Essays on Contemporary Poets from the "Jubilations of poets"*, The Kent State University Press, Kent, 1990.
- Williamson, Alan. *Introspection and Contemporary Poetry*, Massachusetts: Harvard University Press. 1984.

BS in English Course-IV

Course Title: English III: Communication and Presentation

SkillsLevel: BS 3rd

Course Code: ELL202

Course Description

For professional growth and future development, effective presentation skills and interactive and interpersonal communicative skills are very important. This course offers methods, techniques, and drills significant and useful in optimising communication and presentation skills of the learners, enabling them to face divergent groups of audience with poise and confidence. The course has been divided into modules relating to the essentials, contents, gestures, technology, and variety associated with communication and presentations skills. The presentation skills part focuses on preparing students for long-life skill of preparing and giving presentations. Communication is a vital part of our daily routine. The communication skills part focuses on developing good communication skills among students.

Course Objectives

The course aims to:

- help students identify essential components of a presentation
- develop the awareness, knowledge, skills and attitudes required to deliver effective academic presentations and communicate clearly
- help students learn various presentation and communication styles and techniques
- provide techniques to facilitate effective interpersonal and interactive communication
- guide how to build stronger relationships through powerful communication

Course Contents

1. Introduction
 - Understanding the purpose of Communication
 - Analyze the Audience
 - Communicating with words as well as with body language
 - Writing with a Purpose
2. Presentation skills
3. Delivering your presentation
4. Speaking with Confidence
5. Communicating Effectively
6. Job Interviews and Communicating Skills
7. Communicating with Customers
8. Communication in a Team

Recommended Readings:

- Carnegie, Dale. (). *How to Win Friends & Influence People*.
- Giblin, Les. *Skill with People*.
- Newton, Paul. *How to communicate effectively*.
- Tracy, Brian. *Speak to Win*.

BS in English Course-V

Course Title: Short Fictional

Narratives Level: BS 3rd

Course Code: ELL203

Course Description

This course is a fertile field for students to broaden their vision with respect to English literature in general and short fiction in particular, written in different cultures and languages. It focuses on students' critical engagement with different texts that represent a variety of cultures. The short stories in this course have been selected from a wide range of cultures with a view to highlighting the similarities and differences in the writings of different short story writers and how different writers reflect the social and cultural events through their writing with a variety of themes in different styles. The authors included in this course belong to different parts of the world so the works included are quite diverse not only in their form and language but also in themes. The issues and themes reflected or implied in these stories are illusory love, conformity, poverty, the power of words, transformation of identities, feudal structure of rural Punjab, racism in the backdrop of Civil War, political imprisonment, appearance vs reality, feminism, female violence, insanity, women's emotional complexity, and slavery, to mention a few.

In this course, students will concentrate on seminal short fictions in English written by writers from the different regions of the world who have contributed significantly to literature in English through their narrative form and structure, thematic content, and articulation of human experience.

Narrative studies prepares students for the development and evaluation of original content for short fictions and other narrative platforms. To recognise a good story, to critique, to help shape, realise and transform requires a background in the history of narrative, cross-cultural and contemporary models.

The selection of the primary texts will take into consideration that they are united by their engagement with the struggle for the expression of human identity. Consequently, the selection of the short fictions will keep two things in the foreground: representation

of diverse regions and narrative structure.

Course Objectives

The objectives of this course are

1. To provide an exposure to some classics in short fiction both in theme and form
2. To familiarize students with short fiction in English literature by the most recognized and awarded authors
3. To nurture the ability to think critically and promote intellectual growth of the students
4. To develop sensitivity towards cultural diversity through a critical study of the selected works and involve them on a personal and emotional level by relating the stories with their own experiences
5. To make them experience a genuine language context through these stories from different parts of the world

Course Contents

1. *The Nightingale and the Rose* Oscar Wilde
2. *The Three Strangers* Thomas Hardy
3. *The Cask of Amontillado* Edgar Allan Poe
4. *The Darling* Anton Chekhov
5. *Hearts and Hands* O' Henry
6. *The Necklace* Guy De Maupassant
7. *The Secret Sharer* Joseph Conrad
8. *The Other Side of the Hedge* E. M. Forster
9. *Eveline* James Joyce
10. *The Three Questions* Leo Tolstoy
11. *A Hunger Artist* Franz Kafka
12. *A Very Old Man With Enormous Wings* Gabriel Garcia Marquez
13. *Two Words* Isabel Allende
14. *A Cup of Tea* Katherine Mansfield
15. *Everything that Rises Must Converge* Flannery O'Connor
16. *The Story of An Hour* Kate Chopin
17. *The Richer The Poorer* Dorothy West
18. *The Prisoner Who Wore Glasses* Bessie Head
19. *Lamb to the Slaughter* Roald Dahl
20. *Bingo* Tariq Rahman
21. *The Kingdom of Cards* Rabindranath Tagore
22. *The Martyr* Ngũgĩ wa Thiong'o
23. *A Watcher of the Dead* Nadine Gordimer.
24. *Revelation* Flannery O'Connor
25. *Nawabdin Electrician* Daniyal Mueenuddin

Suggested Readings

1. Chekhov, Anton P, and Ralph E. Matlaw. *Anton Chekhov's Short Stories: Texts of the Stories, Backgrounds, Criticism.* , 1979.
2. Ellmann, Richard. *James Joyce.* New York: Oxford University Press, 1959.
3. Ellmann, Richard. *Oscar Wilde; a Collection of Critical Essays.* Englewood Cliffs, N.J: Prentice-Hall, 1969.
4. Forster, E M, Mary Lago, Linda K. Hughes, and Elizabeth M. L. Walls. *The Bbc Talks of E.m. Forster, 1929-1960: A Selected Edition.* Columbia: University of Missouri Press, 2008.
5. Hardy, Thomas, Michael Millgate, Florence E. Hardy, and Florence E. Hardy. *The Life and Work of Thomas Hardy.* Athens: University of Georgia Press, 1985.
6. Long, E H. *O. Henry, the Man and His Work.* Philadelphia: University of Pennsylvania Press, 1949.
7. Maupassant, Guy , Clara Bell, Florence Crew-Jones, and Fanny Rousseau-Wallach. *The Works of Guy De Maupassant.* New York: Printed privately for subscribers only, 1909.
8. Maupassant, Guy , George B. Ives, and Guy . Maupassant. *Guy De Maupassant.* , 1903.
9. Poe, Edgar A. *The Cask of Amontillado.* Charlottesville, Va: University of Virginia Library Electronic Text Center, 1993. Internet resource.
10. Rubenstein, Roberta, and Charles R. Larson. *Worlds of Fiction.* Upper Saddle River, N.J: Prentice Hall, 2002.
11. Symons, Julian. *The Life and Works of Edgar Allen Poe.* , 2014. Print
12. Tolstoy, Leo, and Robert Court. *Leo Tolstoy Collected Short Stories.* Mankato, MN: Peterson Pub, 2002.
13. Wilde, Alan. *Art and Order: A Study of E.m. Forster.* New York: New York University Press, 1964.
14. Wilson, Kathleen. *Short Stories for Students: Presenting Analysis, Context, and Criticism on Commonly Studied Short Stories.* Detroit: Gale, 1997. Print

BS in English Course-VI

Course Title: Introduction to Morphology

Level: BS 3rd

Course Code: ELL204

Course Description

The key aim of the course is to introduce the students to the basic word structure in Pakistani languages. It engages them to have an understanding of words and parts of words. It will help them to understand word structure in Pakistani languages.

Course Objectives

The objectives of this course are to enable the students to:

- define and describe the terms like morphemes, morphology etc.
- understand basic concepts and principles in morphology
- apply these principles in analyzing word structures in Pakistan languages
- compare word formations in Pakistani languages.

Course Contents

- Introduction to morphology (with examples from Pakistani languages)
 - o free morphemes: roots and stems
 - o bound morphemes: affixes: prefixes, suffixes, infixes, interfixes, circumfixes
 - o morphological productivity: productivity of affixes, prefixes, suffixes, infixes
- Basics of Phonetic Transcription of Words
- Inflectional Morphology
 - o Pluralization, Degree Marking, Verb Forms
- Derivational Morphology
 - o Formation of Nouns, Adjectives, Verbs and Adverbs
 - o Minor processes of derivation: blending, clipping, backformation, acronym, Reduplication
 - o derivation by compounding: endocentric, exocentric and copulative compounds
 - o derivation by modification of base
- Morphology of Pakistani Languages
 - o word forms in Urdu, Punjabi, Sindhi, Pashto and other
 - o Descriptive analysis of word forms in Pakistani languages
- Morpho-Semantics- semantic change in word formation processes
- Morphology Interface with Phonology and Syntax
- Morphology-Syntax Interface

Recommended Readings

1. Aronoff, M. (1994). Morphology by itself. MIT Press, Cambridge.
2. Bauer, L. (2003). Introducing Linguistic Morphology--Edinburgh University Press
3. Booij, G. (2005) The Grammar of Words--An Introduction to Linguistic Morphology
4. David et al. (2009). Urdu Morphology. Oxford University Press, London
5. Mangrio, R. A. (2016). The Morphology of Loanwords in Urdu: the Persian,

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- Arabic and English Strands, Cambridge Scholars Publishing, Newcastle upon Tyne.
6. McCarthy, A. C (2002). *An Introduction to English Morphology- Words and their Structure*, Edinburgh University Press. Edinburgh
 7. Plag, I. (2002). *Word Formation in English* -Cambridge University Press. Cambridge
 8. Ayto, J. (1999). *Twentieth Century Words*, Oxford: OUP .
 9. Bauer, L. (2001). *Morphological Productivity*, Cambridge University Press
 10. Halpern, A. (1995). *On the placement & morphology of clitics*. CSLI Publications, Stanford
 11. Yu, A. C (2006) *A Natural History of Infixation*. Oxford University Press, Chicago
 12. Zwicky, A. (1985b). 'How to Describe Inflection.' *Proceedings of the Berkeley Linguistics Society* 11: 372-386. Berkeley, California.
 13. Zwicky, A and Pullum, G. (1992). *A misconceived approach to morphology*. In *Proceedings of WCCFL 91*, ed. D. Bates. CSLI, Palo Alto, 387-398.

BS in Geography

Course-I

Course Title: English III: Communication and Presentation Skills
Level: BS 3rd
Course Code: ELL202

Course Description

For professional growth and future development, effective presentation skills and interactive and interpersonal communicative skills are very important. This course offers methods, techniques, and drills significant and useful in optimising communication and presentation skills of the learners, enabling them to face divergent groups of audience with poise and confidence. The course has been divided into modules relating to the essentials, contents, gestures, technology, and variety associated with communication and presentations skills. The presentation skills part focuses on preparing students for long-life skill of preparing and giving presentations. Communication is a vital part of our daily routine. The communication skills part focuses on developing good communication skills among students.

Course Objectives

The course aims to:

- help students identify essential components of a presentation
- develop the awareness, knowledge, skills and attitudes required to deliver effective academic presentations and communicate clearly
- help students learn various presentation and communication styles and techniques
- provide techniques to facilitate effective interpersonal and interactive communication
- guide how to build stronger relationships through powerful communication

Course Contents

1. Introduction
 - Understanding the purpose of Communication
 - Analyze the Audience
 - Communicating with words as well as with body language
 - Writing with a Purpose
2. Presentation skills
3. Delivering your presentation
4. Speaking with Confidence
5. Communicating Effectively
6. Job Interviews and Communicating Skills
7. Communicating with Customers
8. Communication in a Team

Recommended Readings:

- Carnegie, Dale. (). *How to Win Friends & Influence People*.
- Giblin, Les. *Skill with People*.
- Newton, Paul. *How to communicate effectively*.
- Tracy, Brian. *Speak to Win*.

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BS in Geography Course-II

Computer Applications in Geography
Course Code: **GEOG00302 CH 3(1+2)**

Objectives:

After studying this course, the students will be able to:

- Define computer terminology
- Identify the basic components of a computer and describe the function of each.
- Describe different applications of computers in education.
- Use computer for research, data analysis and presentations.

Course Contents:

- **Introduction:**
 - Definition and Importance of Computer
 - Basic Concepts of the Computer Hardware
 - Input and Output Devices
 - Functions of Computer
- **Computer Software:**
 - Concept of Software
 - Types of Software
 - Applications of Computer in Geography
- **Word Processing and Document Handling:**
 - Creating, Saving and Opening a Document
 - Composing and editing Educational Documents
 - Inserting and resizing tables, pictures and shapes
 - Line Spacing, paragraphing and formatting text
 - Page Setup and Printing document
- **Spreadsheet (Excel):**
 - Features of M.S. Excel
 - Sum/Subtractions/Multiplication/division/
 - Percentage/ Average/ If statement
 - Sorting and Filtering Data
 - Inserting Charts and Graphs
- **PowerPoint:**
 - Composing Presentations
 - Delivering Presentations
- **Internet and Information Highways:**
 - Network, Types of Network, Server and Client
 - Internet, World Wide Web, Search Engines, Internet Browser
 - E-Mail Management
 - Online Educational Resources

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- Educational databases
 - **Computer Based Instructions:**
 - Computer Based Instructions: an introduction
 - Computer Assisted Instruction
 - Computer Based Assessment

Recommended Books:

1. Faden, P.D., and Vogel, R.M. (2003). Methods of Teaching, Boston: Mc-Graw Hills.
2. Joyce, B., Weil M., and Calhoun, E. (2000). Models of Teaching, 6th ed. Boston: Allyn and Bacon.
3. Norton, P. (2000). Introduction to Computers 5th ed; New York: Mc-Graw Hill Book Co.
4. Norton, P. (2003). Introduction to Computers, 5th ed., New York: McGraw-Hill Book Co.
5. Norton, P., & Spragu, D. (2001). Technology for Teaching, Boston: Allyn and Bacon.
6. Sharma, A. (1999). Modern Educational Technology, New Delhi: Prentice-Hall.
7. Sharma, S. R. (2000). Effective Classroom Teaching Modern Methods, Tools and Techniques. Jaipur: Mangal Deep Publications.
8. Shelly, G. B. & Vermaat, M. E. (2008). Discovering Computer.

BS in Geography

Course-III

GENERAL-V (Fundamentals of Economics)

Course Code: **GEOG03303 CH 3(3+0)**

Aims and Objectives

The aims of this course are:

- To introduce students to an understanding of the domain of economics as a social theory.
- To introduce students to the main analytical tools which are used in economic analysis.
- To introduce students to the main conclusions derived from economic analysis and to develop students' understanding of their organisational and policy implications.
- To enable students to participate in debates on economic matters.

Contents

- The economic problem
- Choice and opportunity cost and the production possibilities
- Different economic systems
- Demand and Supply
- Competitive markets
- Market Failure and government intervention
- Application of policy
- Imperfect competition and firm Behaviour
- Game Theory and Strategic Behaviour
- Economic growth and the business cycle
- Unemployment and inflation
- The financial crises
- Fiscal and Monetary Policy

Books Recommended

1. Alnwick, H, (1981), Geography of Commodities, Harrap London.
2. Harthorn, T.A and Alexander, J.W. (1998), Economic Geography. Today. , New Delhi.
3. Hartshorne T.A. & Alexander J.W. (1988), Economic Geography, Prentice Hall, Inc. Englewood Cliffs, New York.
4. Jarrett, H.R. (1969), Geography of Manufacturing, MacDonald & Evans Ltd. London.
5. Jones, C.F. & Darken (1965), Economic Geography, Macmillan New York.
6. Khan F.K. (1998), An Introduction to Economic Geography. Saleem Publishing house, Karachi.
7. Luckas. M.R. (1991), Economic Activity., Longman group UK Limited
8. Norman P. (1981), Success in Economic Geography , John Murray (publishers) Ltd
9. Paul Knox & John Agnew (1994), The Geography of the World Economy. , Edward Arnold, London.
10. Sadhukhan, S.K. (1986), Economic Geography, An Appraisal of Resources, S. Chand and Company Ltd. New Delhi.
11. Smith, J.R. M.O.Phillips & T.S.Smith (1961), Industrial and Commercial Geography. Hott, Rinehart and Winston, New York.
12. Thoman, Conklin & Yeats (1988), The Geography of Economic Activity, McGraw-Hill Book Company, New York, Inc
13. Thomes, R.S. & R.J. Hagget (1980), Models in Geography. Harper and Row Publishers London.

14. Truman A. Hartshorn & Jhon W.Alexander (1992), Economic Geography. Prentice-Hall of India.
15. Williams. T.R. (1991), Economic Geography., Longman group, New York
16. Pakistan Geographical Review (Lahore)
17. Pakistan Journal of Geography (Peshawar)
18. Journal Geography (Karachi)
19. HEC Digital Library

BS in Geography Course-IV

General-VI (Fundamentals of Geophysics)

Course Code: **GEOG03304 CH 3(3+0)**

Objectives

To enhance the student's training for professional work in geophysics through the completion of fundamental courses, both in the major fields and in related sciences, and to begin independent work and specialization.

Course Outline:

- Nature of geophysics
- Branches of geophysics
- History of geophysics
- Earthquakes and Volcanoes
- Energy
- Environment
- Earth Structure and Geodynamics
- Geohazards

Books Recommended

1. David. Mac Geary and Chales C. Plummer, 2004, 'Physical Geography: Earth Revealed" 5th edition. Mac Graw Hill USA
2. John E. Sanders. "Principles of Physical Geology" John Wily and Sons, New York
3. Carla W. Montgomery 2000 "Environmental Geology" 5th edition. Mac Graw Hill USA
4. Arther Getis and Judith Getis, "Introduction to Geography" 9th edition, Mac Graw Hill USA
5. Christopherson, R.W. (2000), Geo-systems, Prentice-Hall, Inc, USA
6. De Blij, H. J and Muller, P.O. (1996), Physical Geography of the global Environment, USA, John Wiley and Sons Inc.
7. Gabler, R.E, Sager, R.J and Wise, D.L. (1997), Essentials of Physical Geography, Saunders College Publishing, New York.

BS in Geography

Course-V

FOUNDATION-III (Human Geography)

Course Code: **GEOG01305 CH 4(3+1)**

Objective

This course attempts to impart knowledge about the relationship between man and environment including natural resources and related human activities

Course Outline

- Key concepts in Human Geography
 - Quranic inferences guiding the principles related to the laws of nature and dynamism in the human environment
- Meaning, scope and status of Human Geography
- Basic concepts and theories
 - Environmental determinism
 - Possibilism, probabilism
 - Cognitive behaviourism
- Population and its characteristics
 - Population distribution, density, and growth
 - Dynamics including fertility, mortality and migration,
 - Population composition; rural and urban population
- Natural resources and human activities
 - Primary, secondary, tertiary, quaternary and quinary
 - Agriculture, mining, forestry, animal husbandry and poultry
 - Industries: cottage, light and heavy
 - Trade and transport
 - Tourism
- Settlements
 - Theories of human settlement
 - Types of settlements,
- Rural settlements,
 - dispersed, nucleated and Ribbon settlements
 - rural urban contrast
- Urbanization
 - Introduction to urban structure and theories
 - Land use and land cover pattern
 - Commercial, industrial and residential, open, green spaces/belts and transport.
 - Process of urbanization (city-size distribution, intermediate and primate city etc.)
- Environmental issues, causes and remedies

Field Visits

To identify the use of natural resources, to study land use and land cover, to study the urban structure, national parks, industrial areas and various rural and urban settlements of Pakistan.

Books Recommended

1. Becker, A. & Secker (2002), Human Geography: Culture, Society, and Space, New York; John Wiley and Sons
2. Blij, H.J.D. (2002), Human Geography: Culture, Society, and Space, New York; John Wiley and Sons
3. Hagget, P. (1997), Geography: A Modern Synthesis, London. Harper International
4. Harper, H.L. (2003), Environment and Society: Human Perspectives on Environmental Issues. New York; Prentice Hall
5. Knox, P.L. & S.A. Marston (2003), Places and Regions in Global Context: Human Geography, New York; Prentice Hall
6. Lewis, C.P. Mitchel-Fox & C. Dyer (2001), Village, Hamlet and Field: Changing Medieval Settlements in Central England, London; Windgather Press
7. Neuwirth, R. (2004), Shadow Cities: A Billion Squatters, A New Urban World, London. Routledge
8. Rowntree, L. et .al. (2004), Globalization and Diversity: Geography of a Changing World, New York. Prentice Hall.
9. Pakistan Geographical Review (Lahore)
10. Pakistan Journal of Geography (Peshawar)
11. Journal Geography (Karachi)
12. HEC Digital Library

BS in Information Technology

Course-I

Data Structures & Algorithms					
Credit Hours:	3+1	Course Code:	COSC-2101	Prerequisites:	COSC-1102
Course Learning Outcomes (CLOs):					
At the end of the course the students will be able to:				Domain	BT Level
1. Implement various data structures and their algorithms, and apply them in implementing simple applications.				C	2
2. Apply the knowledge of data structures to other application domains.				C	3
3. Analyse simple algorithms and determine their complexities.				C	4
4. Design new data structures and algorithms to solve problems.				C	5
* BT= Bloom's Taxonomy, C=Cognitive domain, P=Psychomotor domain, A= Affective domain					
Course Content:					

Abstract data types, Complexity Analysis, Big-O notation, Stacks (Linked Lists and Array Implementations), Recursion and Analysing Recursive Algorithms, Divide and Conquer algorithms, Sorting Algorithms (Selection, Insertion, Merge, Quick, Bubble, Heap, Shell, Radix, Bucket), Queue, Dequeue, Priority Queues (Linked and Array Implementations of Queues), Linked List & its Various Types, Sorted Linked List, Searching an Unsorted Array, Binary Search for Sorted Arrays, Hashing and Indexing, Open Addressing and Chaining, Trees and Tree Traversals, Binary Search Trees, Heaps, M-way Tress, Balanced Trees, Graphs, Breadth-First and Depth-First Traversal, Topological Order, Shortest Path, Adjacency Matrix and Adjacency List Implementations, Memory Management and Garbage Collection.

Teaching Methodology:

Lectures, Written Assignments, Practical Labs, Semester Project, Presentations

Course Assessment:

Sessional Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam

Reference Material:

1. Data Structures and Abstractions with Java by Frank M. Carrano & Timothy M. Henry, Pearson, 5th Edition 2018; ISBN-13: 978-0134831695.
2. Data Structures and Algorithm Analysis in C++ by Mark A. Weiss, Pearson, 4th Edition, 2013; ISBN-13: 978-0132847377.
3. Java Software Structures: Designing and Using Data Structures by John Lewis and Joseph Chase, Pearson, 4th Edition, 2013; ISBN-13: 978-0133250121.
4. Data Structures and Algorithms in C++ by Adam Drozdek, Cengage Learning, 4th Edition, 2012; ISBN-13: 978-1133608424.
5. Data Structures and Algorithm Analysis in Java by Mark A. Weiss, Pearson, 3rd Edition, 2011; ISBN-13: 978-0132576277.

BS in Information Technology Course-II

Computer Networks					
Credit Hours:	3+1	Course Code:	COSC-3101	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Understand the fundamental principles of communication and networking.				C	1
2. Explain the services and functions provided by each layer in the internet protocol stack.				C	2
3. Identify various internetworking devices and protocols, and their functions in a network.				C	3
4. Analyse working and performance of key technologies, algorithms and protocols.				C	4
5. Install network for small scale organizations.				C	5
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
Introduction to Data Communications & Networks, Communication Components, Standards, Protocols, Network Topologies, Effectiveness of Communication, Types of Network, Layered Network Models (OSI Reference Model, TCP/IP Networking Architecture), Physical Layer Functionality, Data Link Layer Functionality, Network Layer Functionality, Transport Layer Functionality, Application Layer Functionality, Transmission Modes, Transmission Media, Transmission Impairments, Multiplexing Techniques, Multiple Access Techniques, Data Link Protocols, Layer 2 & Layer 3 Devices, Layer 2 & Layer 3 Addressing, Sub-netting, Super-netting/CIDR, Routing & Routed Protocols, Distance Vector Routing Protocols, Link State Routing Protocols, Network Address Translation, Circuit Switch Networks, Packet Switch Networks, Wireless Networks, Information Security, Network Security, Latest Trends in Computer Networks.					
Teaching Methodology:					
Lectures, Written Assignments, Practical Labs, Semester Project, Presentations.					
Course Assessment:					
Mid Term Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam.					
Reference Material:					
<ol style="list-style-type: none"> 1. Data Communications and Networking by Behrouz A. Forouzan, McGraw-Hill Science, 5th Edition, 2012; ISBN-10: 073376221 2. Data and Computer Communications by William Stallings, Prentice Hall, 9th Edition, 2010; ISBN-10: 0131392050 3. Computer Networks by Andrew S. Tanenbaum and David J. Wetherall, Prentice Hall, 5th Edition, 2010; ISBN-10: 0132126958 4. Computer Networks and Internets by Douglas E. Comer, Prentice Hall, 5th Edition, 2008; ISBN-10: 0136066984 					

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BS in Information Technology

Course-III

Software Engineering					
Credit Hours:	3	Course Code:	COSC-1104	Prerequisites:	No ne
Course Learning Outcomes(CLOs):					
After the completion of this course the student should be able to:				Domain	BT Level
1. Demonstrate Basic project management skills for solving real world problems.				C	2
2. Understand and be able to apply the principles of software engineering practice and process				C	3
3. Build Software using modern tools to solve real world problems.				C	3
4. Analyze Real world problems by using software engineering constructs				C	4
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
Software Engineering Introduction, Professional Software Development and Software Engineering Ethics, Challenges in Software Engineering, Software Aided Software Engineering Tools, System Development Process, Prototyping and the Process of Prototype Development, Software Development Phases, Requirement, Design, Software Models, Implementation, Integration, Evolutions, Maintenance, Development Methodology, Plan-Driven and Agile S/W Development, Validation & Verification, Rational Unified Process, Process Models, Water Fall and Agile Processes, Evolutionary Development, Component Based Reuse Oriented Development, Incremental Development and Spiral Model, Importance of Strategic Planning, System Evaluation, Requirement Engineering, Functional & Non-Functional Requirement, User & Domain Requirement, Requirement Gathering and Documentation, Requirement Engineering Process, Feasibility Study, Requirement Elicitation, Requirement Discovery, Requirement Verification & Validation, System Models, Behavioral Model, Object Oriented Model, Agile & RAD Development, Software & System Architecture, Architectural Styles and Design Element, Architectural Design & Interface Design, Component Level Design Element, Deployment Design Element, Software Testing, Unit Testing & Integration Testing, System Testing Process, Internal & External View of Testing, Release Testing, User Testing, White Box Testing Black Box Testing, Stages in Acceptance Test Process, User Testing, Acceptance or Alpha Testing, Interface Testing, Software Project Management, Activity Related To SPM, Proposal Writing, Planning & Scheduling, Project Cost, Project Cost Management					
Teaching Methodology:					
Lectures, Written Assignments, Semester Project, Presentations.					
Course Assessment:					
Lectures, Written Assignments, Semester Project, Presentations.					
Reference Material:					
1. Software Engineering by Ian Sommerville, Pearson Publishers, 10 th Edition, 2015, ISBN: 13-978-0133943030 2. Software Engineering: A Practitioner's Approach by Roger S, Pressman, McGraw-Hill Education, 8th Edition , 2014, ISBN: 13-978-0078022128					

BS in Information Technology

Course-IV

Linear Algebra					
Credit Hours:	3	Course Code:	MATH-2102	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Understand mathematical expressions that involve vectors, matrices, and linear systems of linear equations.				C	2
2. Apply linear algebra concepts to model, solve, and analyze real-world situations.				C	3
3. Analyze mathematical statements and expressions for example, to assess whether a particular statement is accurate, or to describe solutions of systems in terms of existence and uniqueness				C	4
4. Evaluate mathematical expressions to compute quantities that deal with linear systems and eigenvalue problems.				C	5
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
Algebra of Linear Transformations and Matrices, Matrices and Linear Equations Matrices , Multiplication of Matrices, Homogeneous Linear Equations and Elimination, Row Operations and Gauss Elimination , Row Operations and Elementary Matrices , Linear Combinations , Determinants, Rank, Systems Of Equations, Vector Spaces, Convex Sets, Linear Independence , Dimension, The Rank of a Matrix Orthogonal Transformations, Linear Dependence, Linear Independence And Bases, The Kernel and Image of a Linear Map, The Rank and Linear Equations Again, Composition and Inverse Mappings, Eigenvalues And Eigenvectors ,Characteristic Equations, Inner Product Space And Quadratic Forms, Eigenvectors and Eigenvalues, Eigenvalues and Eigenvectors of Symmetric Matrices, Diagonalization of a Symmetric Linear Map					
Teaching Methodology:					
Lectures, Written Assignments, Practical Labs, Semester Project, Presentations.					
Course Assessment:					
Mid Term Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam.					
Reference Material:					
1. Introduction to Linear Algebra by Gilbert Strang, Wellesley-Cambridge Press; 5th Edition, 2016. ISBN-10: 0980232775 2. Advanced Linear Algebra by Nicholas Loehr, Chapman and Hall/CRC; 1 st Edition, 2014. ISBN-10:1466559012 3. Linear Algebra Applications, and Techniques by Richard Bronson, Gabriel B. Costa and John T. Saccoman, Academic Press; 3 rd Edition , 2013. ISBN-10: 97801239142					

BS in Information Technology Course-V

Technical & Business Writing					
Credit Hours:	3	Course Code:	ENGL-1111	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Understand the requirements and ethics of technical and businesswriting in the 21st Century workplace.				C	2
2. Summarize larger texts in clear, direct style for practical applications.				C	2
3. Analyzing audience, organizing documents, writing clearly and precisely with no grammar errors and presenting the document with skillful design.				C	4
4. Develop strategies for information design, to include producing visually enhanced documents.				C	6
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
<p>Overview of Technical Reporting, Use of Library and Information Gathering, Administering , Questionnaires, Reviewing the Gathered Information, Technical Exposition, Topical Arrangement, Exemplification, Definition, Classification and Division, Casual Analysis, Effective Exposition, Technical Narration, Description and Argumentation, Persuasive Strategy, Organizing Information and Generation Solution: Brainstorming, Organizing Material, Construction of the Formal Outline, Outlining Conventions, Electronic Communication, Generation Solutions, Polishing Style: Paragraphs, Listening Sentence Structure, Clarity, Length and Order, Pomposity, Empty Words, Pompous Vocabulary, Document Design: Document Structure, Preamble, Summaries, Abstracts, Table of Contents, Footnotes, Glossaries, Cross-Referencing, Plagiarism, Citation and Bibliography, Glossaries, Index, Appendices, Typesetting Systems, Creating the Professional Report; Elements, Mechanical Elements And Graphical Elements. Reports: Proposals, Progress Reports, Leaflets, Brochures, Handbooks, Magazines Articles, Research Papers, Feasibility Reports, Project Reports, Technical Research Reports, Manuals and Documentation, Thesis.</p> <p>Electronic, Documents, Linear Verses Hierarchical Structure Documents.</p>					
Teaching Methodology:					
Lectures, Written Assignments, Practical Labs, Semester Project, Presentations.					
Course Assessment:					
Mid Term Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam.					
Reference Material:					
1. Technical Report Writing, by Pauley and Riordan, Houghton Mifflin Company; 8th Edition, 2002. ISBN -10: 0618140166, ISBN - 13: 9780618140169 2. Effective Technical Communication by Ashraf Rizvi, Tata McGraw-Hill; 3 rd Edition, 2005. ISBN-10:1259082512, ISBN-13: 9781259082511					

BS in Information Technology

Course-VI

Principles of Accounting					
Credit Hours:	3	Course Code:	MSCI-2116	Prerequisites:	None
Course Learning Outcomes (CLOs):					
At the end of the course, the students will be able to:				Domain	BT Level*
1. Understand basic concepts of accounting and financial reporting.				C	2
2. Understand Complete Accounting Cycle				C	2
3. Preparation and the role of Journal, Ledger and subsidiary books.				C	4
4. Preparation of balance sheet, profit and loss account and cash flow statement.				C	4
* BT= Bloom's Taxonomy, C=Cognitive Domain, P=Psychomotor Domain, A=Affective Domain					
Course Contents:					
Accounting and its role, Basic Accounting Concepts, The recording process, Preparation of Financial Statements, The adjusting and closing entries, Accounting for trading organization, Accounting Systems, Cash and temporary investment, Accounting for debtors and stock, Accounting for property, plant and equipment.					
Teaching Methodology:					
Lectures, Written Assignments, Practical Labs, Semester Project, Presentations.					
Course Assessment:					
Mid Term Exam, Home Assignments, Quizzes, Project, Presentations, Final Exam.					
Reference Material:					
1. Financial & Managerial Accounting, Williams, Haka, Bettner, Prentice Hall, 18 th Edition, 2017, ISBN- 10-125969240. 2. Business Accounting, Frank Wood's, Pearson Education Limited 14 th Edition, ISBN: 10: 1292208627.					

BS in International Relations

Course-I

INTR-00301 English-III/Communication Skills Semester 3

Cr.hr: 3

Course Description:

This course helps to develop career oriented skills in communication. It aims to develop the ability to deal effectively with people in public interaction and with fellows in academic life and to convey the message effectively to the intended person.

Contents:

- Preparing for interviews (scholarship, job, placement for internship, etc.)
 - Writing formal letters
 - Writing different kinds of applications (leave, job, complaint, etc.)
 - Oral presentation skills (prepared and unprepared talks)
 - Preparing a Curriculum Vitae (CV), (bio-data)
-
- Writing short reports: Cohesive devices in communication. Problems in Effective communication

Core Books:

1. Ellen, K. *Maximize Your Presentation Skills: How to Speak, Look and Act on Your Way to the Top*. US: Crown Publishing 2002.
2. Hargie, O. *Hand book of Communications Skills*. Taylor & Francis. 2018.
3. Mandel, S. *Effective Presentation Skills: A Practical Guide Better Speaking*. London: Thomson NETg, 2006.

Recommended Books:

1. Powell, M. *Presenting in English: How to Give Successful Presentations*. Language. US: Heinle Cengage Learning, 2011.
2. Patterson, K, Grenny, J., McMillan, R., & Switzer, A. *Crucial Conversations: Tools for Talking When Stakes are High*, 2nd ed. New York: McGraw-Hill Education, 2011.
3. Stone, G., Patton, B., & Heen, S. *Difficult Conversations: How to Discuss What Matters Most*. USA: Penguin Books, 2010
4. Casmir, F. L., ed. *Ethics in Intercultural and International Communication*. New Jersey: Lawrence Erlbaum Associates, 1997.

BS in International Relations

Course-II

INTR-00302 Computer Skills Semester 3

Cr.hr: 3

Course Description:

The course introduces the use of computer for academic purposes so that the students might be equipped with the knowledge of use of technology to conduct research, explore, access and use data from digital sources. The course aims to train students for using the basic computer applications and programs.

Contents:

- Introduction to Computer: An introduction history, Input, Output and Storage Devices. Basic Concepts of Computer
- Microsoft Office Word: Introduction to MS Word, Getting Start, Opening, Saving and Creating Documents, Working with Menu & Icons, Short Keys, Formatting Menu, Header and Footer, References.
- Microsoft Excel: Introduction to Spread Sheet, Features, Menu, Opening & Saving, Standard Menu and Formatting, Formula Bar and Cell Formatting, Excel Tools, Tables, Charts and Graphs.
- Microsoft Power Point: Introduction to Power Point, Working with Menu, creating, Opening and Saving, Presentations, Icons, Graphics, Slide Show, Slide Shower Note, Slide Timer and Animation
- Accessing Digital data sources

Core Books:

1. Cox, J., Lambert, J., and Frye, C. *Microsoft Office Professional 2010*. US: Microsoft Press, 2010.

2. Wempen, F. *Computing Fundamentals: Introduction to Computers*. Sybex, 2015.
3. Shelly, B.G., Freud, M.S., Vermaat, E.M. *Introduction to Computers*. India: Cengage Learning, 2010.

Recommended Books:

1. Norton, P. *Introduction to Computers*. India: Tata McGraw-Hill, 2006.
2. Hobbs, L. *Essential Skills*. Newfoundland and Labrador Laubach Literact Council Inc. 2011.
3. Morrison, C., Wells, D., and Ruffolo, L. *Computer Literacy: A Comprehensive Guide to IC³*. 5th ed. Stanford: Cengage Learning, 2015.
4. Cioffi-Revilla, C. *Introduction to Computational Social Science Applications*. Berlin, Springer, 2014.

BS in International Relations

Course-III

INTR-03303 Introduction to Political Psychology Semester 3 Cr.hr: 3

Course Description:

This course examines what psychology can tell us about political phenomenon that is, rather than examining what happened in politics (e.g.: who won an election) or how it happened (e.g.: who voted for whom), the course looks at why it happened by examining the psychology of individuals. The course explain phenomenon such as the role of media in politics, why people identify with parties, and who wins elections and then influences decision making process.

Contents:

- Historical and Contemporary Approaches: What is Political Psychology, Historical and Contemporary Perspectives
- Personality and Politics: Authoritarianism, Studying Political Leaders
- Social Conformity: Groups, Obedience and Conformity, Obedience and Conformity, Conformity and Current Affairs
- Models of Attitude and Attitude Change: The Structure of Attitudes, Attitudes, Attitude Change and the Media, Values and Ideology, Tolerance
- Intergroup Conflict and Racial Attitudes: The Political Psychology of Race, Realistic Conflict Theory, Implicit Racial Attitudes, Perspectives, Social Identity Theory, Symbolic Politics, Group Politics, The Political Implications of Race, Nationalism, Terrorism, Political Extremism and Conflict
- Towards an Understanding of Political Behavior: Biological Theories and Context

Core Books:

1. Cottam, M., Dietz-Uhler, B., Masters, E., and Preston, T. *Introduction to Political Psychology*. New York: Psychology Press, 2004.
2. Slater, L. *Opening Skinner's Box: Great Psychological Experiments of the Twentieth Century*. New York: WW. Norton, 1986.
3. Kelman, H. C. *Crimes of Obedience: Toward a Social Psychology of Authority and Responsibility*. New Haven: Yale University Press, 1989.

Recommended Books:

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1. Westen, D. 1998. The Scientific Legacy of Sigmund Freud: Toward a Psychodynamically Informed Science. *Psychological Bulletin*, 124: 336-373.
 2. Brown, R. *Social Psychology*. New York: The Free Press. 1965.
 3. Greenstein, E. "Can Personality and Politics be Studied Systematically? *Political Psychology*. 1992: 105-128
 4. Devine, P. "Stereotypes and Prejudice: Their Automatic and Controlled Components." *Journal of Personality and Social Psychology*, 56, 1(1989): 5-18.

BS in International Relations

Course-IV

INTR-03304 History of the United States Semester 3

Cr.Hr: 3

Course Description:

This course aims to equip students with the background knowledge of US history. United States of America which was the sole super power of the post-cold war times needs to be studied from all perspectives. From the perspective of the history this course looks at the historical development that took place on American continent and the factors, policies and practices that paved the way for US emergence as a super power.

Contents:

- **Introduction:** pre-1492, advent of the Europeans to British supremacy 1492-1606)
- **USA as a British Colony:** 1606-1783
- **USA as an Independent Country:** 1783-1819
- **Expansion of the USA:** 1820-1949, from 13 to 50 states
- **Constitution of the USA:** Salient Features
- **Civil War Between the North and the East:** 1850-1869
- **Industrialization and its emergence as one of the world powers:** 1870-1916
- **Role of the USA in World War I&II:** 1914-1918 & 1939-1945
- **USA as a super power in Cold War.**

Core Books:

1. Lader, C. *Painless American History*, New York: Huappauge, 2009.
2. Woods, T. *The Politically Incorrect Guide to American History*. USA: Regnery Publishing, 2004.
3. Smith, N. *The USA: 1917-1980*. Oxford: Oxford University Press, 2006

Recommended Books:

1. Taylor, A. *American Colonies: The Settling of North America*. USA: Penguin Books, 2002.
2. Zinn, H. *A people's History of the United States: 1492 to Present*. USA: Harper Perennial Modern Classics, 2005.
3. Nelson, C. Thomas Paine. *Enlightenment Revolution and the Birth of Modern Nation*. USA: Penguin Books, 2006.
4. Bailyn, B. *The Ideological Origins of the American Revolution* London: Harvard University Press, 2017.

BS in International Relations

Course-V

INTR-01305 Introduction to Human Rights Semester 3

Cr.hr: 3

Course Description:

This course provides an introduction to the question of human rights. The goal of this course is, first, to understand that the evolution of the concept of human rights and its institutionalization was a complex and political process and that what we today understand as human rights is also a political construction. A second goal is to be able to discern different theoretical understandings of human rights and to critically assess contemporary human rights discourses.

Contents:

- **Introduction:** Freedom, Liberty and equality, Civil, Political, Social and Economic Rights, Women Rights, Freedom of Expression.
- **History of Human Rights:** French Declaration and Critiques, Cosmopolitanism
- **Basic Concepts:** Natural rights, Natural Law, Sovereignty
- **Institutionalization of Human Rights:** Birth of United Nations, Human Rights and Anti-colonialism, Treaties and Conventions
- **Politics of Human Rights and Justice:** Rights, Moral or Political? Rights and Culture
- **Issues of Human Rights:** Immigration, Development, Democratic Transition, Torture
- **Defending Human Rights:** Law and Courts, Civil Society, Media, Responsibility to Protect.

Core Books:

1. Moyn, S. *The Last Utopia: Human Rights in History*. Cambridge: Harvard University Press, 2010
2. Goodhart, M. *Human Rights: Politics and Practice*. 2nd ed. Oxford: Oxford University Press, 2013.
3. Philip, A., and Ryan, G. *International Human Rights*. Oxford: Oxford University Press, 2012.

Recommended Books:

1. Wong, W. H. *Internal Affairs*. Ithaca: Cornell University Press, 2012.
2. Hafner-Burton, E. *Making Human Rights a Reality*. Princeton: Princeton University Press, 2013.
3. Rhona K.M. S. *Textbook on International Human Rights*, 6th ed. Oxford: Oxford University Press, 2014.
4. Alston, P., Goodman, R., & Steiner, H. J. eds. *International Human Rights in Context: Law, Politics, Morals*, 3rd ed. Oxford: Oxford University Press, 2007.

BS in Islamic Studies Course-I

English-III

Course Code	ENG-01302
Nature of Course	Compulsory
Number of Credit Hours	03
Semester	3 rd
Objectives of the Course	Enhance language skills and develop critical thinking

Course Description/Outlines

Sr No	Title	Description
1	Presentation Skill (Essay Writing)	Descriptive
2		Narrative
3		Discursive
4		Argumentative
5	Academic Writing	How to write a proposal for research paper
6		How to write a term paper
7	Research Paper	Style Content Language
8		Form, Clarity, Consistency
9	Technical Report Writing	Introduction
10		Techniques
11		Practice
12	Progress Report Writing	Introduction
13		Techniques
14		Practice
15		Presentation

Recommended Books

Sr. No	Name of Author	Name of Book
1	Ron White	Writing. Advanced (Oxford Supplementary Skills. Third Impression 1992. ISBN 0194354073)
2	John Langan	College Writing Skills (McGraw-Hill Higher Education 2004)
3	Laurie G, Kirsznar and Stephen R. Mandell	Patterns of College Writing
4	Janice Neulib, Kathleen Shine Cain, Stephen Ruffus and Maurice Scharton	The Mercury Reader. A Custom Publication

BS in Islamic Studies
Course-II

Introduction to Computer

Course Code	COMP-01303
Nature of Course	Compulsory
Number of Credit Hours	03
Semester	3 rd
Objectives of the Course	To provide the Students basic information about Computer Hardware, Software, and M.S. Word

Course Description/Outlines

Sr. No	Title	Description
1	Introduction to Computer	Introduction, Getting starting of Computer System Software/Operating System (Kinds, Types) Application Software (Kinds, Types)
2	Computer Hardware	Parts Specifications
3	Installation	Software Hardware Driver Software
4	Computer Language	High Level, Middle Level, Low Level What is bit and Bytes What is Dos Mod in Computer
5	Microsoft Office	What is MS Office Versions of MS Office Installation of MS office
6	MS Word	Getting Starting, creating document, page break, spell check, saving a file, renaming, deleting and printing Page Setup(margins, paper size, layout , Orientation) Using Style(getting, changing and redefining styles
7		Table of Contents (creating, updating, properties) Index(creating, updating) Page Numbers, Header and Footer(creating and modifying)
8		Mail Merge(creating main document, data source, merge) Linking and Embedding Objects Extra Impact in Documents(using drawing, inserting auto shapes, line art , word art, clip art, inserting pictures)
9	MS Excel	Getting Starting, Creating and Printing Sheet, Working with Numbers, Adjusting Layout, Aligning Text, Printing Page Setup(margins, page setting) Creating Charts (chart types, creating, editing & formatting charts)

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10	MS Excel	Linking with Proofing Tools (linking with paste links, minimizing data entry errors) Header and Footer (creating and Modifying) Automating Entries (auto number, automating through custom lists)
11	MS Power Point	Getting starting, creating presentation, steps to qualify presentation, selecting slide layouts, existing presentation
12		Formatting Slides and Text (changing color scheme, customizing background, aligning text , replacing fonts) Objects and Animation(adding & inserting objects, inserting table from word, adding animation, printing) Setting Up Slide Show (setting up slide show and timing)
13	MS Access	Getting Starting, Creating Database Opening a Table , Creating Query TablesCreating Forms , Creating Reports
14	Internet	What is internet, www and IP? Networking (types, kinds, downloading, uploading, printing)
15	Internet Usages	Virus Protection, How to Search? What is search engine Online Queries, Web Browsing, Surfing Data Communication Services, E. Mail, Attachment, Voice Mail

Recommended Books

Sr. No	Name of Author	Name of Book
1	Larry Lang	Introduction to Computer
2	Microsoft	MS-Windows user reference Manuals
3	Microsoft	MS-Office Professional reference Manuals

BS in Islamic Studies
Course-III

Introduction to Psychology

Course Code	GEN-01304
Nature of Course	General
Number of Credit Hours	03
Semester	3 rd
Objectives of the Course	1.To explain the importance of Psychology and its role 2.To identify historical background and its importance in living life

Course Description/Outlines

Sr. No	Title	Description
1	Historical Background of Psychology	Greek Period Development of Psychology as a Science Schools of Psychology Perspectives in Psychology
2	Research Methods in Psychology	Observation Method(introspection, External Observation) Survey Method Interview Method Case Study Method
3	Biological Basis of Behavior	Nervous System Central Nervous System Brain and Spinal Cord
4		Autonomic Nervous System Sympathetic Nervous System Parasympathetic Nervous System
5	Sensation	Five Senses, Structure and Function of Eye Structure and Function of Ear Structure and Function of Nose Structure and Function of Tongue Structure and Function of Skin
6	Perception	Definition Depth Perception Laws of Perceptual Organization
7	Attention	Definition Span of Attention Fluctuation in Attention Conditions of Attention
8	Learning	Nature of Learning Types of Learning

		Classical Conditioning Instrumental Conditioning
9	Learning	Learning by Trial and Error Learning by Insight Learning by Imitation Learning by Modeling Vicarious Conditioning
10	Motivations	Nature of Motives Instincts Drive and Drive Level Types of Motives
11		Maslow's Theory of Motivation Herzberg's Theory of Motivation Atkinson's Theory of Motivation
12	Emotions	Nature of Emotions Expression of Emotions Psychology of Emotions
13		Cannon Bard Theory of Emotion Singer Schacstea Theory of Emotion
14	Memory	Sensory Memory Short Term Memory Long Term Memory Process of Memory
15		Retention, Recall, Recognition Impact of Learning on Memory

Recommended Books

Sr. No	Name of Author	Name of Book
1	Edward, E. Smith Nolen. Hoeksema and Barbava	Introduction to Psychology
2	Robin K & Orew	Psychology
3	Reber E. Feldman	Understanding Psychology
4	Rober A. Baron	Psychology
5	Mruphy G. & Korach	Historical Introduction to Modern Psychology
6	Sahakian W.S.	History and system of Psychology
7	Women B.B.	Contemporary Theories in System in Psychology
8	Schultz.D.P & Schultz, S.E.	A History of Modern Psychology

BS in Islamic Studies
Course-IV
Fine Arts

Course Code	GEN-01305
Nature of Course	General -6
Number of Credit Hours	03
Semester	3 rd
Objectives of the Course	1.To explain the importance of art education and its role 2.To reflect and participate in artistic activities 3.To identify links between art and other school subjects

Course Description/Outlines

Sr. No	Title	Description
1	Introduction to Arts, Crafts & Calligraphy	What are arts, crafts and calligraphy? The role of the teacher in teaching art Influence of the arts in children's development
2		The emergence of Islamic calligraphy Ceramics and sculpture Puppetry in Pakistan
3	History and Culture	Indus civilization Exploration of history through a museum visit Art and architecture (from Indus to mughal)
4		Islamic art and calligraphy (origin from Persian artist and their calligraphy) Pakistani calligraphers (Anwar Jalal Shmza, Rasheed Butt, Hanif Ramy, Zahoor ul Ikhlq, Arshad, Sadqain, Shakir Ali, Gul Gee, Aslam Kamal)
5	History and Culture	Introduction to the cubism understand the cubism Pakistani artists(worked in realism e.g. Shakir Ali)
6		Introduction about realism Pakistani Artist's work in realism (Ali Imam, M. Husain, Hanjra, Khalid Iqbal, Ana Molka)
7		Abstraction Origin and history of abstract art Explore the work of Pakistani artists in abstract
8		Indigenous art Pottery, ceramics, textile, etc.
9		Art across the curriculum Ideas to integrate art with languages, science, social studies, mathematics etc.
10	Elements of Art & Principle of Design	Understanding elements of art (line, shapes, color, texture, space and volume) The importance of lines and its use in art work

		Kinds of lines and use of color
11	Use of Space and Value in 2D and 3D Art Texture	Use of space and value in 2d and 3d art texture Natural and man made Introduction of principle of design (unity, variety, balance, contrast, emphasis, pattern and proportion)
12		Drawin gStill life Painting
13		Printing Pattern making Shapes organic and geometrical shapes
14		Sculpture Landscape Stick drawing and conclusion and review of the unit
15		What is assessment in art curriculum? How and why we assess creativity? Design rubric

Recommended Books

Sr. No	Name of Author	Name of Book
1	R. Barnes	Teaching Art to Young Children
2	E. Eisner	The Arts and the Creation of Mind
3	J. Lancaster	Art in the Primary School
4	P.D.	Art for the Fun of it. A guide for teaching young Children
5.	M. Dowling	Education
6	J. Mahews	Helping children to draw and paint in early children
7	P. Gura	Resources for early Learning Children
8.	P. Tambling	Performing Arts in the Primary School
9	S.H. Vandal	Art Education in Pakistan
10	A.Razzaq	Children and Art -Status of art education in Pakistan

BS in Islamic Studies Course-V

علوم القرآن Uloom al-Quran

Title	Description
Semester	3 rd
Nature of Course	Foundation (F-3)
Course code	ISL-01306
No. of Cr. Hrs.	03
Teaching weeks	18
Objectives of the Course	<p>۱۔ طلبہ کو علوم القرآن سے اس طرح رہنمائی کروانا تاکہ وہ قرآن مجید کی منزل کو آسانی سے طے کر سکیں</p> <p>۲۔ طلبہ کی مفادیم قرآن کی سمجھ میں مدد کرنا</p> <p>۳۔ طلبہ میں ایسی مہارت، سلیقہ اور صلاحیت پیدا کرنا جس کی مدد سے وہ جدید کے مسائل، قرآنی تناظر میں سمجھ سکیں</p>

Course Description

S.No	Topic	Description
1	تعارف قرآن مجید	<p>۱۔ قرآن مجید کا لغوی اور اصطلاحی مفہوم</p> <p>۲۔ قرآن مجید کی خصوصیات و امتیازات</p>
2	وحی الہی	<p>۱۔ وحی کا مفہوم و اہمیت</p> <p>۲۔ وحی کی اقسام اور کیلیات</p>
3	چند نزول قرآن	<p>۱۔ نزول قرآن کا مفہوم</p> <p>۲۔ نزول قرآن مجید: تدریج و مکثیں</p> <p>۳۔ قرآن مجید کے خصائص</p>
4	کتاہت وحی	<p>۱۔ کتاہت وحی کا تعارف</p> <p>۲۔ کتاہت وحی</p> <p>۳۔ کتاہت وحی کے اسالیب</p>

5	حفاظت قرآن مجید	۱۔ حفاظت قرآن کا مفہوم ۲۔ حفاظت قرآن کے لیے اقدامات الف۔ حفظ ب۔ کتابت ج۔ عملِ تواتر
6	حضرت ابو بکرؓ کے دور میں تدوین قرآن	۱۔ تدوین قرآن کی ضرورت ۲۔ تدوین قرآن کی ذمہ داری ۳۔ حفاظت قرآن کے لیے مدنی دور کے اقدامات
7	مہر عثمانی میں تدوین قرآن	۱۔ مہر عثمانی میں تدوین قرآن کے اسباب ۲۔ مہر عثمانی میں تدوین قرآن کے اسالیب ۳۔ مہر عثمانی میں تدوین قرآن کے اثرات
8	قرآن پاک کی کئی سورتیں	۱۔ کئی سورتوں کا تعارف و اہمیت ۲۔ کئی سورتوں کی شان نزول ۳۔ کئی سورتوں کے اہم مضامین
9	قرآن پاک کی مدنی سورتیں	۱۔ مدنی سورتوں کا تعارف و اہمیت ۲۔ مدنی سورتوں کی شان نزول ۳۔ مدنی سورتوں کے اہم مضامین
10	اسباب نزول	۱۔ اسباب نزول کا تعارف و اہمیت ۲۔ قرآن فہمی اور اسباب نزول ۳۔ تخریج قرآن میں اسباب نزول کی حیثیت
11	تاریخ و منسوخ	۱۔ تاریخ و منسوخ کا تعارف ۲۔ تاریخ و منسوخ کے اسباب ۳۔ تاریخ و منسوخ کا قرآن فہمی اور قرآن پاک کی تشریحی حیثیت پر اثرات
12	تفسیر القرآن کے اہم ماخذ	۱۔ تفسیر قرآن بالقرآن ۲۔ تفسیر قرآن بالحدیث ۳۔ تفسیر قرآن بالقول صحابہؓ و تابعین ۴۔ قدیم صحفِ سہوی

Course Description

S.No	Topic	Description
1	تعارف قرآن مجید	۱۔ قرآن مجید کا لغوی اور اصطلاحی مفہوم ۲۔ قرآن مجید کی خصوصیات و امتیازات
2	وحی الہی	۱۔ وحی کا مفہوم و اہمیت ۲۔ وحی کی اقسام اور کیفیات
3	تاریخ نزول قرآن	۱۔ نزول قرآن کا مفہوم ۲۔ نزول قرآن مجید: تدریج و حکمتیں ۳۔ قرآن مجید کے خصائص
4	کتابت وحی	۱۔ کتابت وحی کا تعارف ۲۔ کاتبین وحی ۳۔ کتابت وحی کے اسالیب

BS in Islamic Studies Course-VI

Intermediate of Pakistan Study

Course Code	PAK-01301
Nature of Course	Basic Course
Number of Credit Hours	Non Credit
Semester	3 rd
Objectives of the Course	1.To fulfill the requirement for Khasa Students 2.Develop vision of historical perspective of Pakistan 3.Study the Ideological background of Pakistan

Course Description/Outlines

Sr. No	Title	Description
1	Ideology of Pakistan	Definitions, Historical Background
2		Speeches delivered by Quaid-e-Azam
3	Life and Works	Mujadid Alf-e-Sani
4		Shah Waliullah
5		Syed Ahmad Shaheed
6	Two Nation Theory	Services of Sir Syed Ahmad Khan and Others
7	1990-1930	The Establishment of All India Muslim League, Lakhnau Pact, Khilafat Movement
8		Nehro Report Quaid-e-Azam's Fourteen Points
9		Round Table Conference, Allah Abad's Address
10	1930-1946	1935 Act 1936-37 Elections, Congress Ministries
11		Pakistan Resolution, Cripps Mission, Shimla Conference, Delhi Convention
12	After 1946	Cabinet Mission Plan 3 rd June 1947 Independence Act 1947
13		The Creation of Pakistan Red Cliff's Award
14		Early Problems and Difficulties of Pakistan
15		

Recommended Books

Sr. No	Name of Author	Name of Book
1	Shahid Javed Burki	State & Society in Pakistan
2	Tahir Amin	National Movement in Pakistan
3	Lawrence Ziring	Enigma of Political Development

BS in Mathematics

Course-I

Eng-01301, English-III (Technical Writing & Presentation Skills)

Credit Hours: 03

Course Outlines:

Presentation skills (essay writing; descriptive, narrative, discursive, argumentative, academic writing); how to write a proposal for research paper/term paper; how to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency). Technical report writing, progress report writing. Note: Extensive reading is required for vocabulary building

Prescribed Books:

- 1) Langan, John (2014). College Writing Skills. McGraw-Hill Education
- 2) White, Ron (1992). Writing Advanced: Oxford Supplementary Skills. 3rd Impression.
- 3) Kirzner, Laura G. (2004). Patterns for College Writing. Bedford: St. Martin's Press.

BS in Mathematics

Course-II

Ens-01301, Environmental Science

Credit Hours: 03

Course Outlines:

Definitions, history, movements, environmental systems, atmosphere, lithosphere, hydrosphere and biosphere, origin and inter-relationship, environmental factors, chemical, physical and biological, environmental pollution, types, sources, causes, effects, environmental dilemmas, deforestation, water logging, salinity, drought and desertification, issues of environment and sustainable development, issues of the social environment; population growth, urbanization, migration and poverty, environment and life style.

Prescribed Books:

- 1) D. Botkin, and E. Keller, (2000) Environmental Science: Earth as a Living Planet, 8th Ed. John Wiley and Sons, Inc.
- 2) W. P. Cunningham, B. W. Saigo, (2001) Environmental Science, 6th edition, McGraw-Hill
- 3) E. D. Enger, and B. F. Smith, (1997), Environmental Science: A Study of nterrelationships McGraw-Hill
- 4) C. E. Kupchella, and M. C. Hyland, (1986) Environmental Science: Living within the System of Nature, Prentice Hall
- 5) B. J. Nebel, and R. T. Wright, (1999) Environmental Science, 6th Ed, Prentice Hall

BS in Mathematics

Course-III

CSC-01301, Computer Applications + Lab

Credit Hours: 02+01

Course Outlines:

Introduction to Computer and Microsoft Windows 7,8 &10 Word processing (Microsoft Word 7,13,16 & 365). Spread Sheets (Microsoft Excel) and Data Base (Microsoft Access & My SQL) Internet access (Search Engines and other Advance Apps that helps students in future). Introduction to computer systems; exploring computers and their uses, looking inside the computer system. Interacting with computer: using the keyboard and mouse, inputting data in other ways. Processing data; transforming data into information. Modern CPUs. Storing data: types of storage devices. Operating system basics. Networking basics. Internet and the WWW. E-Mail and other Internet services. Application software. Database Management Systems. Protecting privacy, computer, and data. Understanding the need for security measures. Taking protective measures.

Prescribed Books:

- 1) R. K. Livesley, (2017). An Introduction to Automatic Digital Computers. Cambridge University Press.
- 2) G. B. Sheely, (2010). Introduction to Computers. 8th Ed. Course Technology.
- 3) P. Norton, (1999). Introduction to Computers: Word 2000 (Software). McGraw-Hill, Inc.

BS in Mathematics

Course-IV

Math-01301, Calculus - III

Credit Hours: 03

Course Outlines:

Vector-Valued Functions and Motion in Space: Vector-Valued Functions and Space Curves, Modeling Projectile Motion, Arc Length and Unit Tangent Vector T , Curvature, Torsion, and the TNB Frame, Planetary Motion and Satellites Multivariable Functions and Partial Derivatives: Functions of Several Variables, Limits and Continuity, Partial Derivatives, Differentiability, Linearization, and Differentials, Chain Rule, Partial Derivatives with Constrained Variables, Directional Derivatives, Gradient Vectors, and Tangent Planes, Extreme Values and Saddle Points, Lagrange Multipliers, Taylor's Formula Multiple Integrals: Double Integrals, Areas, Moments, and Centers of Mass, Double Integrals in Polar Form, Triple Integrals in Rectangular Coordinates, Masses and Moments in Three Dimensions, Triple Integrals in cylindrical and Spherical Coordinates, Substitutions in Multiple Integrals Integration in Vector Fields: Line Integrals, Vector Fields, Work, Circulation, and Flux, Path Independence, Potential Functions, and Conservative Fields, Green's Theorem in the Plane, Surface Area and Surface Integrals, Parameterized Surfaces, Stokes' Theorem, Divergence Theorem and a Unified Theory.

Prescribed Books:

- 1) H. Anton, A New Horizon (7th edition), 2001, John Wiley, New York.
- 2) G. B. Thomas, A. R. Finney, Calculus (11th edition), 2005, Addison-Wesley, Reading, Ma, USA
- 3) R. Larson, Calculus with Analytic Geometry, 2002.
- 4) G. Simmon, Calculus with Analytic Geometry, 1996.
- 5) Gillett, Introduction to Calculus and Analytic Geometry, 2008.

BS in Mathematics

Course-V

Math-01302, Operation Research

Credit Hours: 03

Course Outlines:

Linear inequalities, development of LP model, feasible and infeasible solutions, graphical methods, simplex method, revised simplex method, optimal solutions, range of optimal solutions, transportation model, relation between LP model and transportation model, methods for solving transportation model (North-West corner method, least cost method and Vogel approximation method) and assignment model.

Prescribed Books:

- 1) Hamdy A. Taha, Operations Research, An Introduction, McMillan Publishing Company, New York, 1987.
- 2) B.E. Gillett, Introduction to Operations Research, Tata McGraw-Hill Publishing Company Ltd., New Delhi. 2001
- 3) G.D. Hillier, & G.J. Lieberman, Operations Research, CBS Publishers and Distributors, New Delhi. 1967

BS in Physics

Course-I

Phy-01301 Electromagnetic Theory (3+1) Credit Hrs.

Theory: 3 Credit Hrs.

Electric field and electric dipoles; Charge and its distributions; Electric potential and Gauss's law; Electric field as gradient of potential; Conductors and insulators; Capacitors and dielectrics; Energy stored in an electric field; Electromagnetic spectrum; Poisson's and Laplace's equations; Magnetic field and energy density; Biot-Savart law; Magnetic torque and moments; Faraday's law; Ampere's Law and its applications; Transformer; Inductance & inductive circuits (RL, LC & RLC circuits); Forced electromagnetic oscillations and resonance; Displacement current & Maxwell's equations; Electromagnetic waves & Poynting vector.

Recommended Books:

1. Hugh D. Young, Roger A. Freedman University Physics with Modern Physics (11th edition) Addison-Wesley, 2003.
2. D. Halliday, R. Resnick, K. S. Krane Physics 5th ed. (Vol- I & II), John Willey & sons, Inc., 2001.
3. Physics by D. Halliday, R. Resnick and K.S. Krane, Vol. 1 & 2, 5th Edition (2010).
4. Fundamental of Physics by D. Halliday, R. Resnick and J. Walker, 9th Edition (2011).
5. Sears and Zemansky's College Physics by H.D. Young, 9th Edition (2012).
6. Physics for Scientists and Engineers by Serway & Jewett, 9th Edition (2014).
7. Concepts of Modern Physics by A. Beiser, 6th Edition (2006).
8. Electronic devices by Floyed, 9th Edition (2012).
9. Mechanics by Mushtaq Ahmad (2020).

Note: The Instructor may suggest any relevant/latest book available.

Lab. 1 Credit Hr.

1. Measurement of resistance using a Neon flash bulb and condenser.
2. Conversion of a galvanometer into Voltmeter & an Ammeter.
3. Calibration of an Ammeter and a Voltmeter by potentiometer.
4. To study the B.H. curve & measure the magnetic parameters.
5. Measurement of low resistance coil by a Carey Foster Bridge.
6. Resonance frequency of an acceptor circuit.
7. Resonance frequency of a Rejecter Circuit.
8. Study of the parameter of wave i.e. amplitude, phase and time period of a complex signal by CRO.
9. To study the network theorems (Superposition, Thevinin, Norton).
10. To study the application of Lorentz force by CRO.
11. Measurement of the ionization potential of mercury (Hg).

Note: Minimum number of practical to be performed is six. Teachers are required to emphasize on graphical analysis and error calculations.

BS in Physics

Course-II

Phy-01302 Concepts of Modern Physics 3 Credit Hrs.

Overview of modern physics: Galilean relativity, Michelson-Morley experiment, postulates of special relativity, Relativity of simultaneity, Time-dilation; Relativistic Doppler effect; Hubble law; Relativistic velocity addition formula; Lorentz transformations; space-time; Relativistic energy and momentum; Mass-energy conversion; Conservation of energy/momentum; General Relativity; Blackbody radiation/Raleigh-Jeans paradox; Planck's law; Photoelectric effect; Compton scattering; Thompson's experiment; Millikan's Oil drop experiment; Rutherford scattering; Bohr's atomic theory; Frank-Hertz experiment; Wave phenomena: De Broglie waves, uncertainty principle, double slit experiment, Introduction to wave-functions, Schrodinger wave-equation; Free particle and wave-packets; Time-independent Schrodinger equation; particle in a box; harmonic oscillator; Observables and expectation values; Angular momentum; Hydrogen atom; Zeeman field; Stern-Gerlach experiment; electron spin; many particle systems wave function; fermions; bosons; Pauli exclusion principle; electrons and the periodic system of elements.

Recommended Books:

1. Raymond A. Serway, Clement J. Moses, Curt A. Moyer. Modern Physics. 3rd Edition, Brooks/Cole, Thomson Learning, 2005.
2. John C. Morrison. Modern Physics for Scientists and Engineers. Academic Press, 2009.
3. Raymond A. Serway, John W. Jewett, Jr. Physics for Scientists and Engineers with Modern Physics. Brooks/Cole, Thomson Learning, 2009.
4. Mendel Sachs. Concepts of Modern Physics. Imperial College Press, 2013.
5. Arthur Beiser. Concepts of Modern Physics. 6th Edition, McGraw-Hill 2008.
6. Jeremy Bernstein, Paul M. Fishbane in Stephen Gasiorowicz. Modern Physics. Prentice Hall, 2000.

BS in Physics

Course-III

Phy-01303 Mathematics-III (Calculus-I) 3 Credit Hrs.

Number systems Bounded and unbounded sets; Infimum and supremum; Intervals; Natural numbers; Principle of induction; Sequences; Convergence; Series and products; Real valued functions; Graphical representation of real valued functions; Limit of a function; Properties of limit; continuity and discontinuity; Differentiation; Derivatives; Higher derivatives; Properties of differentiable functions exponential and logarithmic functions; Trigonometric and inverse trigonometric functions; Hyperbolic and inverse hyperbolic functions; Maxima and minima; Mean value theorems; Intermediate forms; Taylor's theorem; Macaroni's series; Power series.

Recommended Books:

1. J. Stewart. Calculus. 6th Edition, Cengage Learning, 2007.
2. G.B. Thomas and R.L. Finney. Calculus and Analytic Geometry. 9th Edition, Addison-Wesley Publishing Company, 1998.
3. E.W. Swokowski, M.Olinick, D.Pence, J.A. Cole. Calculus. PWS Publishing Co. USA, 1994.

BS in Physics Course-IV

Phy-01304 English-III (Writing and Presentation Skills) 3 Credit Hrs.

Objectives: Enhance language skills and develop critical thinking

Course Contents

Presentation skills

Essay writing

Descriptive, narrative, discursive, argumentative

Academic writing

How to write a proposal for research paper/term paper

How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)

Technical Report writing

Progress report writing

Note: Extensive reading is required for vocabulary building

Recommended Books:

Technical Writing and Presentation Skills

a) Essay Writing and Academic Writing

1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 435407 3 (particularly suitable for discursive, descriptive, argumentative and report writing).
2. College Writing Skills by John Langan. McGraw-Hill Higher Education. 2004.
3. Patterns of College Writing (4th edition) by Laurie G. Kirszner and Stephen R. Mandell. St. Martin's Press.

b) Presentation Skills

c) Reading

The Mercury Reader. A Custom Publication. Compiled by Northern Illinois University. General Editors: Janice Neuleib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).

BS in Physics

Course-V

Phy-01305 Atomic and Laser Physics 3 Credit Hrs.

Review of Bohr's theory; Sommerfeld model; Frank Hertz experiment and approximation methods; Stern Gerlach experiment; Schrodinger wave theory for hydrogen atom; Fermi Golden rule; Quantum numbers; Selection rules; Atoms in radiation field; Zeeman effect; Stark effect; Hyperfine structure; Radioactive transition (nuclear disintegration); electron transition and hydrogen energy levels; Pauli exclusion principle; Periodic system of the elements, Central field approximation; Hartree Fock methods; Thomas Fermi potential; Spin orbit coupling: LS coupling, jj coupling; Many electron atoms in an electromagnetic field; X-ray spectra; Ionic and covalent bonding; Diatomic molecules-rotational; vibrational and electronic spectra; Born Oppenheimer approximation; Polyatomic molecules (brief introduction); Raman effect; Radiative transitions; Einstein coefficients; Development of laser systems; Applications of lasers.

Recommended Books:

1. Bransden B H and Joachain C J, Physics of atoms and molecules Pearson Education, 2004.
2. Beiser A, Concepts of Modern Physics, 7th Edition McGraw-Hill Publishing, 2015.
3. Krane, K S, Modern physics, 3rd Edition John Wiley & Sons, Inc, 2012.
4. Silfvast, W T, Laser fundamentals, 2nd Edition Cambridge University Press, 2004.
5. Jean-Claude D, Ladan A, Lasers: The Power and Precision of Light Wiley-VCH, Weinheim Germany, 2011.
6. Nair K P R. Atoms, molecules and lasers. Narosa Publishing House, 2006.

BS in Physics

Course-VI

Phy-01306 Probability & Statistics 3 Credit Hrs.

Introduction to Probability and Statistics: The Purpose of Statistics, Descriptive and inferential statistics, Population, Sample, Observations and Measurement; Describing the Data: Frequency distributions, Graphical representations, Measures of variation, Chebyshev's theorem, Z-score. Spread: variance, standard deviation, Skew, Kurtosis, Covariance, Correlation; Combinatorics: Introduction to combinatorics, permutations, combinations; Probability And Confidence: Sample space, event, probability of an event, rules for computing probabilities, Conditional probabilities, Confidence Levels, Confidence levels in descriptive statistics, Confidence intervals in estimation, Confidence levels from Gaussians, Measurement of a constrained quantity, Binomial confidence intervals, Poisson confidence intervals, Several variables-confidence regions; Random Variables: Discrete and continuous random variables and their probability distributions, expectation value of continuous and discrete random variables, Probability Distributions: Standard discrete distributions: Uniform, degenerate, binomial, Poisson, multinomial, geometric and hypergeometric distributions. Continuous distributions: normal & exponential distributions, Sampling distributions: χ^2 , t-, and F-distributions; Inference: Estimators, point estimators, Interval estimators; Taking Decisions: Hypotheses, Type-I & type II errors, test decision using p-value and confidence interval, parametric tests and goodness of fit test; Linear Regression: Linear model, Method of least square, Goodness of Fit, Inductive view.

Recommended Books:

1. Christian Heumann, Michael Schomaker Shalabh. Introduction to Statistics and Data Analysis. Springer 2016.
2. Luca Lista. Statistical Methods for Data Analysis in Particle Physics. 2nd Ed, Springer, 2017.
3. Gerhard Bohm and Günter Zech. Introduction to Statistics and Data Analysis for Physicists. Verlag Deutsches Elektronen-Synchrotron, 2010.
4. Frederick James. Statistical Methods in experimental Physics. 2nd edition, world scientific, 2006.
5. Glen Cowan. Statistical Data Analysis. Oxford Science Publisher, 1998.
6. Louis Lyons. Statistics for Nuclear and Particle Physicists. Cambridge University Press, 1989.
7. Roger Barlow. Statistics: A guide to use of statistical methods in Physical Sciences, John Wiley & Sons, 1989.
8. Walpole, R. E. Introduction to Statistics. 3rd Ed., Macmillan Publishing Co., Inc. New York. 1982.

BS in Physical Education Course-I

English III (Technical Writing and Presentation Skills)

Objectives: Enhance language skills and develop critical thinking

Course Contents

Presentation skills

Essay writing

Descriptive, narrative, discursive, argumentative

Academic writing

How to write a proposal for research paper/term paper

How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)

Technical Report writing

Progress report writing

Note: Extensive reading is required for vocabulary building

Recommended books:

Technical Writing and Presentation Skills

- a) Essay Writing and Academic Writing
 1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 435407 3 (particularly suitable for discursive, descriptive, argumentative and report writing).
 2. College Writing Skills by John Langan. Mc=Graw-Hill Higher Education. 2004.
 3. Patterns of College Writing (4th edition) by Laurie G. Kirszner and Stephen R. Mandell. St. Martin's Press.
- b) Presentation Skills
- c) Reading

The Mercury Reader. A Custom Publication. Compiled by norther Illinois University. General Editors: Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).

BS in Physical Education Course-II

Course Code PEDU-00322, Introduction to Computer Applications in Sports (Compulsory 8)
(Theory + Practical) (1+1 Cr. Hr.) 3rd Semester

Course Outline

The course will cover the basics of computer on scientific basis and equip the youth with modern techniques in computer lab for practical.

Course Contents

I. Introduction to Computer

- a. An introduction History
- b. Input, Output & Storage Devices
- c. Basic Concepts of Computer

II. Microsoft Office Word

- a. An introduction to word
- b. Getting Start
- c. Opening Documents
- d. Saving Documents
- e. Creating Documents
- f. Working with Menu & Icons
- g. Working with short Keys
- h. Working with Work Art Tool Bar
- i. Working with Formatting Menu
- j. Working with Drawing Tool Bar
- k. Working with Header & Footer

III. Microsoft Office Excel

- a. An Introduction to Spread Sheet
- b. Spread Sheet Features, Working with Menu
- c. Opening & Saving
- d. Standard Menu & Formatting
- e. Formula Bar & Cell Formatting
- f. Working with Excel Tools, Charts

IV. Microsoft Office Power Point

- a. An Introduction to power Point
- b. Working with Menu
- c. Creating, Opening & Saving
- d. Presentation, Working with & Icons
- e. Working with Graphics
- f. Slide Show, Slide Shorter / Note
- g. Slide Timer & Animation

RECOMMENDED BOOKS

1. Liengme, B. (2008). *A guide to Microsoft Excel 2007 for scientists and engineers*. Academic
2. Walkenbach, J., Tyson, H., Pr. C. N., & Wempen, F. (2007). *Microsoft Office 2007 Bible*. John Wiley & Sons.
3. Tyson, H. (2007). *Microsoft Word 2007 Bible* (Vol. 434). John Wiley & Sons.
4. Berk, K. N., & Carey, P. M. (2009). *Data analysis with Microsoft excel: updated for office 2007*. Cengage Learning.
5. Walkenbach, J. (2010). *Excel 2010 power programming with VBA* (Vol. 6). John Wiley & Sons.

BS in Physical Education Course-III

Course Code PEDU-02323, Sports Psychology (Theory + Practical) (2+1 Cr. Hr.) 3rd Semester

OBJECTIVES OF COURSE

The course of Sport Psychology is designed to fulfill the following objectives:
There is very little know how in the people related to the sports arena in the sweet homeland about Psychology involvement in sport, which is resulting in the deserting of the ground and sport. This in turn is making the people idle, unhealthy and negative where they will for the uplift of their own or the country is lacking. There is a dire need to clinch the people back to the play fields in order to achieve the goal of strong individuals who may contribute to the success of the nation. Psychology need to be infused at gross root level as it will act as motivator for the young generation, so if the Physical Education Teacher is equipped with the knowledge, he'll be better able to inculcate the theme in the off-springs. The knowledge of Sport Psychology will enable the students to learn more about the organized play and goal setting procedures, which will contribute to the services provided by them in the educational as well as professional institutions

COURSE CONTENTS

- i. **SPORTS PSYCHOLOGY**
 - a. Defining Sports and exercise Psychology
 - b. Specializing in sport psychology
 - c. Difference between Clinical and Educational Sports Psychology
 - d. Choosing from many sport and exercise psychology around the world
- ii. **AGGRESSION IN SPORTS**
 - a. Defining Aggression
 - c. Understanding the causes of Aggression
 - d. Examining Aggression in Sports:
 - Spectators and aggression
 - Games Reasoning and aggression
 - Athletic injuries and aggression
 - Performance and aggression
 - Team moral atmosphere and aggression
- iii. **MOTIVATION IN SPORTS**
 - a. Defining Motivation
 - b. Reviewing three approaches to Motivation:
 - Trait-centered View

- Situation-centered View
- Interactional View
- a. Building motivation with five guidelines
- b. Using achievement motivation in professional practice

v. **GOAL SETTING IN SPORTS**

- a. Defining Goal Setting
- b. Reasons for Goal Setting
- c. Types of Goals
 - Outcome Goals
 - Performance Goals
 - Process Goals
 - Team Goals
- d. Effectiveness of Goal Setting
- e. Principles of Goal Setting
- g. Common Problems in Setting Goals

vii. **IMAGERY AND PERFORMANCE**

- a. What is Imagery
- b. Evidences of imagery effectiveness
- c. Imagery in sport: where, what, when, and why,
- d. Factors affecting the Effectiveness of Imagery
- e. How Imagery works

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RECOMMENDED BOOKS

1. Weinberg, R. S., & Gould, D. (2018). *Foundations of Sport and Exercise Psychology*. 7E. Human Kinetics.
2. Richard H. Cox, (2007) 6th Ed. *Sports Psychology* McGraw Hill.
3. Moran, A., & Toner, J. (2017). *A Critical Introduction to Sport Psychology: A Critical Introduction*. Routledge.
4. James M. William, (2006) 5th Ed. *Applies Sports Psychology*, McGraw Hill.
5. Karageorghis, C. I., Terry, P. C., & Dickenson, P. (2011). *Inside sport psychology*. Champaign, IL: Human Kinetics.

BS in Physical Education Course-IV

Course Code PEDU-01324, Basics of Human Anatomy and Physiology (Foundation 3) (Theory + Practical) (2+1 Cr. Hr.) 3rd Semester

OBJECTIVES OF COURSE

The outlines of this course has been drawn with the objective to provide basic knowledge of human anatomy and body parts such as head and neck, thorax, abdomen and pelvis, Skeleton, Bones Tissues, Joints and Muscles to acquaint students with initial information about human body structure and functions.

COURSE CONTENTS

I. INTRODUCTION

- a. Definition of Anatomy
- b. Importance of Anatomy in Sports
- c. Terms & terminologies used in Anatomy

II. CELL

- a. Structure of Cell
- b. Functions and Characteristics of Cell
- c. Cell division

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III. TISSUES AND ORGANS

- a. Definition
- b. Types

IV. ANATOMY OF SKELETAL SYSTEM

V. ANATOMY OF MUSCULAR SYSTEM

VI. ANATOMY OF DIGESTIVE SYSTEM

VII. ANATOMY OF CARDIOVASCULAR SYSTEM

VIII. ANATOMY OF NERVOUS SYSTEM

RECOMMENDED BOOKS

1. Singh, V. (2015). *General Anatomy-E-book*. Elsevier Health Sciences.
2. Shier, D., Butler, J., & Lewis, R. (2015). *Hole's essentials of human anatomy & physiology*. McGraw-Hill Education.
3. Netter, F. H. (2014). *Atlas of Human Anatomy, Professional Edition E-Book: including Netter Reference. com Access with Full Downloadable Image Bank*. Elsevier Health Sciences.
4. Scanlon, V. C., & Sanders, T. (2014). *Essentials of anatomy and physiology*. FA Davis.
5. Marieb, E. N., & Hoehn, K. (2010). *The integumentary system. Human Anatomy and Physiology*. 8th ed. San Francisco, CA: Benjamin Cummings, 155.

M. Zvezes

[Signature]

BS in Physical Education Course-V

Course Code PEDU-02325, Games Practical-III (Basketball) (0+2 Cr. Hr.) 3rd Semester

OBJECTIVES OF COURSE

This practical course has been designed with the purpose to provide technical knowledge to students develop their skill in selected games.

COURSE CONTENTS

I. BASKETBALL (Skills, Coaching and Officiating)

- a. Dribbling
- b. Passing
- c. Defense
- d. Shooting

RECOMMENDED BOOKS

1. Krause, J. V., & Nelson, C. (2018). *Basketball skills & drills*. Human Kinetics.
2. Thomas, K. (2005). *How Basketball Works*. Maple Tree Press.
3. Prudden, J. (2006). *Coaching girls' basketball successfully*. Human kinetics.
4. Wootten, M., & Wootten, J. (2012). *Coaching basketball successfully*. Human Kinetics.
5. McGee, K. (2007). *Coaching basketball technical and tactical skills*. Human Kinetics.
6. Rose, L. H. (2012). *Winning basketball fundamentals*. Human Kinetics.

BS in Physical Education Course-VI

Course Code PEDU-02326, Athletics Practical-III (Throws) (0+2 Cr. Hr.) 3rd Semester

OBJECTIVES OF COURSE

The outline of this practical course is prepared with the purpose to provide basic knowledge to the students with modern approach for developing their skills in Track and Field events. Furthermore, this course will enable them to develop courage, determination, speed, endurance and self-reliance.

- 1. THROWS (Discuss, Shot Put, Hammer Javelin) (Skills, Coaching and Officiating)**
 - a. Stance
 - b. Grip/Holding
 - c. Glide
 - d. Throw and Balance

RECOMMENDED BOOKS

1. Silvester, L. J., & Silvester, J. (2003). *Complete book of throws*. Human Kinetics.
2. Daigo, Toshiro. *Kodokan judo: Throwing techniques*. Kodansha International, 2005.
3. Wrisberg, C. A. (2007). *Sport skill instruction for coaches*. Human Kinetics.
4. Hargreaves, A. (2009). *Skills & Strategies for coaching soccer*. Human Kinetics.
5. Lasorsa, R., & Peterson, J. A. (Eds.). (2007). *2008 NTCA Throws Handbook*. Coaches Choice Books.
6. Potrac, P., Gilbert, W., & Denison, J. (Eds.). (2013). *Routledge handbook of sports coaching*. Routledge.

BS in Political Science

Course-I

Course Title: English III: Communication and Presentation

SkillsLevel: BS 3rd

Course Code: ELL202

Course Description

For professional growth and future development, effective presentation skills and interactive and interpersonal communicative skills are very important. This course offers methods, techniques, and drills significant and useful in optimising communication and presentation skills of the learners, enabling them to face divergent groups of audience with poise and confidence. The course has been divided into modules relating to the essentials, contents, gestures, technology, and variety associated with communication and presentations skills. The presentation skills part focuses on preparing students for long-life skill of preparing and giving presentations. Communication is a vital part of our daily routine. The communication skills part focuses on developing good communication skills among students.

Course Objectives

The course aims to:

- help students identify essential components of a presentation
- develop the awareness, knowledge, skills and attitudes required to deliver effective academic presentations and communicate clearly
- help students learn various presentation and communication styles and techniques
- provide techniques to facilitate effective interpersonal and interactive communication
- guide how to build stronger relationships through powerful communication

Course Contents

1. Introduction
 - Understanding the purpose of Communication
 - Analyze the Audience
 - Communicating with words as well as with body language
 - Writing with a Purpose
2. Presentation skills
3. Delivering your presentation
4. Speaking with Confidence
5. Communicating Effectively
6. Job Interviews and Communicating Skills
7. Communicating with Customers
8. Communication in a Team

Recommended Readings:

- Carnegie, Dale. (). *How to Win Friends & Influence People*.
- Giblin, Les. *Skill with People*.
- Newton, Paul. *How to communicate effectively*.
- Tracy, Brian. *Speak to Win*.

BS in Political Science Course-II

PS-412: DEMOCRACY AND GOVERNANCE

Until recently the link between democracy and governance was not sufficiently introduced. This course is designed to introduce students to these issues.

1. Democracy ; meaning ,kinds
2. Aspect of democracy
3. Democratic state and society
4. Good governance ; meaning Scope ,and Characteristic
5. Democracy and good governance
6. UNDR report ; review and analysis
7. Reasons of lack of good governance
8. Problems and solution of good governance

Books Recommended:

1. Sohail Mamood, The Mushraf Regime and the Governance Crises: A Case Study of the Government of Pakistan, Himtington, New York: Nova Science, 2001.
2. D-8 Conference Report on Good Governance and Institutional Regimes, Planning Commission, Islamabad: Government of Pakistan, 1999.
3. Mahbubul Haq, Good Governance in South Asia, New York, UNDP.
4. Seminar Proceedings on Good Governance in Pakistan held at the Department of Public Administration, University of Karachi, Karachi: 1999.
5. Ali Akbar., Nuclear Politics and the Challengers of Governance. Karachi Royal Book Company, 1999.
6. Cheema, G.S. and D. Rondinelli. Decentralization and Development: Policy Implementation in Developing Countries. Beverly Hills: Sage. 1984.
7. Hussain Mushahid, Akmal Hussain. Pakistan: Problem of Governance. Lahore Vanguard Books PVT. LTD. 1993.
8. Hye Hasnat Abdul (ed) Governance: South Asia Perspective. Karachi. Oxford University Press. 2000.
9. Public Sector Managing, Governance and sustainable Human Development. New York. UNDP. 1996.
10. Pascal, R. Managing on the Edge. New York: Simon and Schuster. 1990.
11. Siddiqui Tasneem Ahmed. Towards Good Governance. Oxford University Press 2001.
12. SIDA. Poverty, Environment and Development: Proposals for Action. Stockholm: SIDA 1991.
13. UNDP. Cities, People and Poverty: Urban Development Cooperati for the 1990s. New York: United Nations. (19991a).
14. UNDP. The Urban Environment in Developing Countries. New York: United Nations. (1993a).
15. UNDP. Human Development Report. New York: Oxford University Press. (1993a).

16. UNDP. UNDP: A Charter for Change (Parts I & II). New York: UNDP. (1993H).
17. UNDTCD. Measures to Ensure to Enhance the Capacity of Management Improvement Agencies in Developing Countries. New York: United Nations. 1992.
18. World Bank. Assistance Strategies to Reduce Poverty. Washington, DC. (1999la).
19. World Bank. Governance and Development. Washington, DC. (1992a).

BS in Political Science

Course-III

PS-413:

POLITICAL PARTIES AND ELECTIONS IN PAKISTAN

1. Characteristics and functions of Political Parties: A theoretical analysis.
2. Political parties in Pakistan: Their origin and growth.
3. Pakistan's Socio Economic Environment, Political Culture and its influence on party organizations and their functioning.
4. A critical Study of major national, regional/nationalist, religious and ethnic political parties in the context of their manifestos, functional framework and over all contributions to political stability, modernization and change.
5. Military influences, party alliances, and their impact on national politics.
6. Electoral behavior and political change since 1950s.
7. Changing trends in electoral process: A critical analysis of general election in Pakistan since 1960s.
8. Problems and prospects of electoral and party politics in Pakistan.

Books Recommended:

1. Askari, H., Military and Politics in Pakistan, Lahore: Progressive Publishers, 1988.
2. Wseem, M, Elections in Pakistan, 1947-58.
3. Aziz, K.K., Party Politics in Pakistan, 1947-58.
4. Palmer, N., Elections and Political Development in South Asia: India and Pakistan Experience,
5. Afzal, Rafiq, Political Parties in Pakistan, Vol. I & II.
6. Sayeed, K.B., Politics in Pakistan: Nature and Direction of Change, Lahore: Vanguard, 1988.
7. Mahmood, Safdar, Pakistan: Political Roots and Developments.
8. Ziring, L. An Enigma of Political Development in Pakistan.

BS in Political Science

Course-IV

PS-415: POLITICAL SYSTEMS OF INDIA AND TURKEY

This course is to make a comparative and analytical study of the political systems of these countries. Emphasis is to be given on political process, political culture, interaction among various political and governmental forces and developmental aspects. Decision making process is also to be studied including various factors influencing it.

Recommended Books:

1. Iqbal Ahmad (Ed.). The Islamic Revolution in Iran, Lahore, 1980.
2. Basu, Durga Das, Introduction to the Constitution of India, New Delhi, Prince Hall, Latest edition.
3. Books on Turkey to be searched.

BS in Political Science Course-V

اُردو زبان: تشکیل و ارتقاء

- زبان کیا ہے؟ زبان اور بولی کا فرق
- اُردو زبان کے مختلف نام اور ان کی وجہ تسمیہ
- اُردو زبان کے ارتقا میں مسلم علما، صوفیاء اور سلاطین کا حصہ
- اُردو زبان کی تشکیل کے حوالے سے ابتدائی معلومات
- (مخلوط زبان کے تصور کا تجزیہ اور سائنسی نقطہ نظر، وادی سندھ اور مسلم برصغیر کے ساتھ اُردو زبان کا تعلق)
- اُردو اور تحریک پاکستان (اُردو بندی تنازع کے تناظر میں)
- بحیثیت قومی زبان اُردو اور پاکستانی زبانوں کا باہمی تعلق (کسی ایک پاکستانی زبان کے خصوصی حوالے سے)

مجوزہ کتب :

- | | |
|--|---------------------------|
| 1- زبان کیا ہے؟ | پروفیسر خلیل صدیقی |
| ۲- پنجاب میں اُردو | حافظ محمود شیرانی |
| ۳- اُردو زبان کی تاریخ | مرزا خلیل احمد بیگ |
| ۴- اُردو کی لسانی تشکیل | مرزا خلیل احمد بیگ |
| ۵- ہندوستانی لسانیات | ڈاکٹر محی الدین قادری زور |
| ۶- اُردو زبان کا ارتقا | شوکت سبزواری |
| ۷- پاکستانی اُردو | ڈاکٹر عطش درانی |
| ۸- اُردو کی کہانی | رضا علی عابدی |
| ۹- ہندی اُردو تنازع | ڈاکٹر فرمان فتح پوری |
| ۱۰- عام لسانیات | ڈاکٹر گیان چند جین |
| ۱۱- ایک بھاشا: دو لکھاوٹ، دو ادب | ڈاکٹر گیان چند جین |
| ۱۲- اُردو کی ابتدائی نشوونما میں صوفیائے کرام کا حصہ | مولوی عبد الحق |

BS in Political Science

Course-V

Week(s)	Contents
Week# 1	<u>INTRODUCTIN TO PHYSICAL EDUCATION</u> <ol style="list-style-type: none"> Definition d. Scope Aims and Objectives e. Importance in present Scientific Foundations of day life Physical Education
Week# 2, 3	<u>MOVEMENT EDUCATION</u> <ol style="list-style-type: none"> Definition Types of Movement Factors Affecting Movement; Gravity, Air resistance, Mass, Friction, Equilibrium, Levers, Muscular Strength and Power, Flexibility, and Metabolic Functioning Biomechanical Analysis of the following Movement Concepts: <ol style="list-style-type: none"> Stretching Jumping Running Balancing and Weight Bearing
Week# 4, 5	<u>PHYSICAL MOTOR FITNESS</u> <ol style="list-style-type: none"> Definition Importance of Physical Fitness Components of Physical Fitness <ol style="list-style-type: none"> Cardiovascular Endurance Muscular Power Muscular Endurance Body Composition Flexibility Motor Fitness <ol style="list-style-type: none"> Speed Power Coordination Agility Balance
Week# 6, 7	<u>GAMES AND SPORTS</u> <ol style="list-style-type: none"> Importance of games and sports Systems of Tournaments <ol style="list-style-type: none"> League (Round Robin) System Knock out (Elimination) System Combination system Rules and Techniques of the followings: Hockey, Volleyball, Football, and Badminton
Week# 8	<u>TRACK AND FIELD EVENTS</u> <ol style="list-style-type: none"> Introduction of track and field events (National level) Rules, regulations and techniques of the following events: <ol style="list-style-type: none"> Sprint Races 100m, 200m, 400m, 800meters, Hurdle Races 100m (for female), 110m (for male), and 400m Throwing of Javelin, Putting the Shot and Discus Throw
Week# 9	Mid Term

Week# 10	<u>COMMUNITY HEALTH</u> <ol style="list-style-type: none"> Public Health problems Community Health Centre Sanitation of home, school and locality Symptoms, Causes & prevention of the following Communicable diseases. Aids, Tuberculosis, Hepatitis
Week# 11	<u>MASSAGE</u> <ol style="list-style-type: none"> Definition of Massage Utility and importance of Massage Types of Massage Aquatics, Mud Therapy
Week# 12, 13	<u>SKILL EFFICIENCY IN GAMES</u> Skill efficiency in any two of the following games: Hockey, Volleyball, Football, and Badminton
Week# 14, 15	<u>SKILL-EFFICIENCY IN TRACK AND FIELD</u> Skill-efficiency in any two of the following events: <ol style="list-style-type: none"> Sprint Races 100m, 200m, 400m, 800meters, Hurdle Races; 100m (for female), 110m (for male), and 400m Throwing of javelin, Putting the shot and Discus throw
Week# 16, 17	<u>GYMNASTICS</u> Skill Co-efficiency in any two of the following: <ol style="list-style-type: none"> Warm up cool down exercises with sequence Forward Roll Dive Roll Backward Roll Head Standing
Week# 18	Final Term

BOOKS RECOMMENDED:

1. Zeigler, E.F. (2010). Philosophy of physical activity education including educational sport.
2. Osada, N., & Raskin, A. (2010). Theory of international physical education and sports studies for the achievement of peace.
3. Sanders, T., & Scanlon, V. (2006), Essentials of anatomy and physiology.
4. Elaine N. Marieb and Katja N. Hoehn (2010) Anatomy & Physiology (4th edition)
5. Longenbaker, S.N. (2008). Mader's understanding human anatomy and physiology. Mc-Graw Hill.
6. IAAF Rule Book (2019-20).
7. Gary Barber (2006). Getting started in track and field athletics: Advice and ideas for children, parents, and teachers.

BS in Psychology

Course-I

Course Title: English III: Communication and Presentation

Course Description

For professional growth and future development, effective presentation skills and interactive and interpersonal communicative skills are very important. This course offers methods, techniques, and drills significant and useful in optimising communication and presentation skills of the learners, enabling them to face divergent groups of audience with poise and confidence. The course has been divided into modules relating to the essentials, contents, gestures, technology, and variety associated with communication and presentations skills. The presentation skills part focuses on preparing students for long-life skill of preparing and giving presentations. Communication is a vital part of our daily routine. The communication skills part focuses on developing good communication skills among students.

Course Objectives

The course aims to:

- help students identify essential components of a presentation
- develop the awareness, knowledge, skills and attitudes required to deliver effective academic presentations and communicate clearly
- help students learn various presentation and communication styles and techniques
- provide techniques to facilitate effective interpersonal and interactive communication
- guide how to build stronger relationships through powerful communication

Course Contents

1. Introduction
 - Understanding the purpose of Communication
 - Analyze the Audience
 - Communicating with words as well as with body language
 - Writing with a Purpose
2. Presentation skills
3. Delivering your presentation
4. Speaking with Confidence
5. Communicating Effectively
6. Job Interviews and Communicating Skills
7. Communicating with Customers
8. Communication in a Team

Recommended Readings:

- Carnegie, Dale. (). *How to Win Friends & Influence People*.
- Giblin, Les. *Skill with People*.
- Newton, Paul. *How to communicate effectively*.
- Tracy, Brian. *Speak to Win*.

BS in Psychology Course-II

Course Title: Cognitive Psychology

Credit Hours: 3

Course Objectives

This course provides an understanding of the mental processes involved in cognition, perception, attention, memory, thinking, language and reasoning processes. The core focus will be on how information is received, perceived, filtered, stored, retrieved and conveyed and it will provide an understanding of the mental processes through which information is acquired, processed and conveyed.

Course Outcome

After completing this course students will be able to:

- Think critically about the internal processes involved in human cognition.
- articulate the basic principles, major theories, and research concerning higher mental processes

Course Contents

Introduction

Nature and Scope of Cognitive Psychology
Historical Perspective

Neural Basis of Cognition

Neural representation of information
Organization of the brain and neural localization of function
Information coding in visual cells

Perception and Attention

Sensory memory: Iconic memory & echoic memory
Pattern recognition: Template matching and Feature Analysis
Speech recognition and Voice onset time
Perceptual Laws of Organization
Object Perception
Spatial vs. linear representation
Depth Perception
Colour Perception
Perception of Movement

Knowledge Representation

Perception based knowledge
Meaning based knowledge

Memory

Implicit and Explicit memory
Retention in episodic memory
Working memory and long term memory
Interference: Fan effect
Recall vs. recognition

Thinking and Problem solving

Mean –end Analysis
Problem Solving by Analogy
Heuristic and algorithms

Reasoning

Deductive and inductive reasoning
Conditional reasoning
Syllogism

Language

Language comprehension: Parsing, Semantic considerations and Utilization.
Language and thought
Child language Acquisition
Psycholinguistics
Linguistic Determinism
Transformational Grammar

Recommended Books

Friedenberg, J. (2012). *Cognitive science* (2nd ed.). Los Angeles: Sage.
Galotti, K. M. (2013). *Cognitive psychology in and out of the laboratory*. Thousand Oaks: SAGE

Publications.
Groome, D. (2013). *An introduction to cognitive psychology: Processes and disorders*. London: Psychology Press.
Kellogg, R. T. (2012). *Fundamentals of cognitive psychology* (2nd ed.). Los Angeles: Sage.
Medin, D., Ross, B., & Markman (2005). *Cognitive psychology*. (4th ed.). UK: John Wiley Inc.

BS in Psychology

Course-III

Course Title: Biology

Credit Hours: 3

Brief Introduction of the Course:

Objectives: The objective of this course is to provide knowledge the molecular basis of life to give a foundation for understanding the biochemical principles of structure and function of a living system as unity of life.

Pre-requisite of the Courses

Intended Learning Outcomes:

Course Contents

Mid Term Syllabus (Please mention main topic and its sub-topics and its sub topics for each session)

Session-1

Introduction: definition and concept of life

Session-2

Introduction: definition and concept of life

Session-3

chemical basis of structure and function of cell

Session-4

chemical basis of structure and function of cell

Session-5

chemical basis of structure and function of cell

Session-6

chemical diversity of functional groups, molecular basis of life: carbohydrates

Session-7

chemical diversity of functional groups, molecular basis of life: carbohydrates

Session-8 **Mid Term Examination**

chemical diversity of functional groups, molecular basis of life: carbohydrates

chemical diversity of functional groups, molecular basis of life: carbohydrates

Final-term syllabus (Please mention main topic and its sub-topics for each session)

Session-9

Polypeptides in protein diversity

Session-10

and enzymes as molecular tools in chemical transformations nucleic acids the molecule of genetic information

Session-11

and enzymes as molecular tools in chemical transformations nucleic acids the molecule of genetic information

Session-12

replication and protein synthesis

Session-13

replication and protein synthesis

Session-14

overview of structure and function of cell organelles and cell cycle

Session-15

overview of structure and function of cell organelles and cell cycle

Session-16 **Final-Term Examination**

overview of structure and function of cell organelles and cell cycle

Reference Books/Material

- Aunt, L. A., Cain, M. L., Wasserman, S. A., Minorsky, P. V., & Reece, J. B. (2017). Campbell biology. Pearson Education, Incorporated.
- Reece, J. B., Taylor, M. R., Simon, E. J., & Dickey, J. L. (2012). Campbell biology: concepts & connections. San Francisco, CA: Benjamin Cummings
- King, T., Reiss, M., & Roberts, M. (2001). Practical advanced biology. Nelson Thornes.
- Starr, C., Taggart, R., & Evers, C. (2012). Biology: The unity and diversity of life. Cengage Learning
- Cleveland P. Hickman, Jr (2010). Integrated Principles OF Zoology, is" Edition (International). Singapore: McGraw Hill.
- Miller, S.A. and Harley, J.B. (2006). Zoology, 7th Edition (International). Singapore: McGraw Hill

BS in Psychology Course-IV

Fine Arts

Course Description: This Course is designed to give students an opportunity to learn about the Fine Arts and develop a sense of visual literacy. This course offers an overview of the subject for those with little or no art background as well as for beginning art majors. It is also designed to awaken the creativity, as well as giving you a strong intellectual grounding in visual thinking, and the form, meaning and content of visual art.

Course Contents: Study of formal elements; study of formal elements in two dimensional; surfaces; Perspective; principles of Arts.

Final Term: Understanding and awareness of the various art media; major historical movements in art.

Recommended Books

- The Great Masters Series (Syed Amjad Ali) Feroz Sons Pakistan
- Still Life Step by Step (Mary Mclean, CDA)North Light Books
- Artists Painters (Angel, Nunez) Nova Galicia Editions, S.L Carlos Del Pulgar Sabin.
- The Impressionist Print (Micheel Melot) Yale University Press New Haven and London

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BS in Psychology

Course-V

Annexure H

ECON-: Introduction to Economics I (Optional)

Introduction of Micro and Macro Economics

Nature, scope and importance of Economics, Microeconomics vs. Macroeconomics, Scarcity and choice, Opportunity cost, Factors of production, Production possibility frontier.

Demand and Supply

Concepts of demand and supply, Laws of demand and supply, Shifts in demand and supply curves

Equilibrium Analysis

Determination of Market equilibrium, shift in market equilibrium.

Consumer Behavior (Cardinal Approach)

Consumer behavior, Preferences, Utility function, Laws of diminishing marginal utility, Law of Equi-marginal utility.

National Income

Concepts of national income, GDP & GNP, Real vs. nominal GNP, NNP, NI, PDY, Saving Consumption.

Consumption, Saving and Investment

Concepts and types of consumption, saving, investment, relationship between income and Investment


Monetary Policy

Central Bank and its functions, Central bank as a controller of money market, monetary policy and its instruments

Reference Books

1. McConnell and Brue (2006) – Principles of Economics – 17th Edition, McGraw Hill.
2. Mankiw, G.(2001) - Principles of Economics - 2nd edition, South West Publishers.
3. Pindyck, Rubinfeld, and Mehta, (2005/6th Edition), Microeconomics, Pearson Education, Singapore.
4. Koutsoyiannis, A., (1979/2nd Edition), Modern Microeconomics, Macmillan.
5. Mankiw, G. N., (2007/6th Edition), Macroeconomics, Worth Publishers, New York.
6. Dornbusch, R., Stanley, F., (2008/9th Edition), Macroeconomics, McGraw-Hill Inc

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Approved = BoS on 14/12/18

Chairman
Department of Economics
Islamia University of Bangladesh

BS in Psychology Course-VI

Course Title: Environmental Psychology

Credit

Hours: 3

Course Objectives

The main objectives of the course are:

- To familiarize students with the concepts of Environmental Psychology, theories and perspectives, and research methods of environmental psychology.
- To provide knowledge about human-environment interaction and how both affect each other.

Course Outcome

After having completed the course students will be able to:

- explore and understand various perspectives on human-environment interrelationship and develop an insight into the ways in which the environment influences our feelings and experiences

Course Contents

Introduction

Definition and Scope

Historical background

Importance and Application of Environmental Psychology

Nature and Human Behavior

Environmental perception, cognition & attitude

Social interaction and the environment

Impact of environment on personality development and individual differences

Theories of Environmental Psychology

Arousal Theories

Stimulus Load

Behavioral Constraint

Adaptation Level Theories

Environmental Stress Theories (Ecological Theories)

Research Methods in Environmental Psychology

Weather, Climate and Human Behavior

Disasters, toxic hazards and pollution

Catastrophes and Human Adjustments

Future Environmental Challenges posed to humanity

Impact of Environment Changes in Industrial and Geographical Development

Personal space and territoriality

Noise, air and water pollution

Factors in Adjustment to Environment: gender, age, job, family, fashion, religion, society

Effects of Environmental stressors

Town Planning and Urbanization

Phenomenon of Urbanization
Planning and design for human behavior
High density and crowding
The Built Environment and Human Adjustment
Design in residential and institutional environments
Work, Learning and Leisure environments
Changing behavior to save the environment
Mob and Group Behavior in Environmental and Cultural Variances

Recommended Books

- Baum, A. (1998). *Advances in environmental psychology*. New York: Lawrence Erlbaum Associate.
- Bell, P. A., Greene, T. C., Fisher, J. D., & Baum, A. (2001). *Environmental psychology* (5th ed.). USA: Harcourt College Publishers.
- Cassidy, T. (1997). *Environmental psychology*. UK: Psychology Press.
- Garling, T., & Golledge, R. (Eds.). (1993). *Behaviour and environment: Psychological and geographical approaches*. Amsterdam: North Holland.
- Golledge, R. G. & Stimson, R. J. (1997). *Spatial behavior: A geographic perspective*. NY: Guilford Press.
- Spindler, G. D. (1998). *Making of psychological anthropology*. California: University of California Press.
- Stokols, D., & Altman, I. (Eds.). (2000). *Handbook of environmental psychology*. New York: Wiley.

BS in Statistics

Course-I

STAT - 01301

Basic Statistical Inference

Distribution of sample mean and central limit theorem. Estimation: Point Estimation. Desirable Properties of a Good Estimator. Interval Estimation. Interval Estimation of population mean. Large and small sample confidence intervals for Population Mean. Nature of Hypothesis Testing and Types of errors. Hypothesis Testing for Population Mean and variance. Inferences for Two Population Means. Large-sample inferences for Two Populations using Independent Samples. Inferences for the Mean of Two Normal Populations using Independent Samples (variances are assumed Equal/Not Equal). Inference for Two Populations Mean using Paired Samples. Inferences for Population Proportions. Confidence Intervals and hypothesis testing for Population Proportion. Inferences for Two Populations Proportions using Independent Samples, Estimation of sample size. Chi-Square Procedure. Chi-Square Goodness-of fit Test. Chi-Square Independence Tests. Introduction to Non-Parametric Statistical Methods.

BS in Statistics

Course-II

Math-01301, Calculus - III

Credit Hours: 03

Course Outlines:

Vector-Valued Functions and Motion in Space: Vector-Valued Functions and Space Curves, Modeling Projectile Motion, Arc Length and Unit Tangent Vector T , Curvature, Torsion, and the TNB Frame, Planetary Motion and Satellites Multivariable Functions and Partial Derivatives: Functions of Several Variables, Limits and Continuity, Partial Derivatives, Differentiability, Linearization, and Differentials, Chain Rule, Partial Derivatives with Constrained Variables, Directional Derivatives, Gradient Vectors, and Tangent Planes, Extreme Values and Saddle Points, Lagrange Multipliers, Taylor's Formula Multiple Integrals: Double Integrals, Areas, Moments, and Centers of Mass, Double Integrals in Polar Form, Triple Integrals in Rectangular Coordinates, Masses and Moments in Three Dimensions, Triple Integrals in cylindrical and Spherical Coordinates, Substitutions in Multiple Integrals Integration in Vector Fields: Line Integrals, Vector Fields, Work, Circulation, and Flux, Path Independence, Potential Functions, and Conservative Fields, Green's Theorem in the Plane, Surface Area and Surface Integrals, Parameterized Surfaces, Stokes' Theorem, Divergence Theorem and a Unified Theory.

Prescribed Books:

- 1) H. Anton, A New Horizon (7th edition), 2001, John Wiley, New York.
- 2) G. B. Thomas, A. R. Finney, Calculus (11th edition), 2005, Addison-Wesley, Reading, Ma, USA
- 3) R. Larson, Calculus with Analytic Geometry, 2002.
- 4) G. Simmon, Calculus with Analytic Geometry, 1996.
- 5) Gillett, Introduction to Calculus and Analytic Geometry, 2008.

BS in Statistics

Course-III

COMP-01303 Statistical Computer Programming – I (C++)

Introduction to Compilers & Interpreters languages, Data and Variable and their types, Operators, truth tables, Operands and Expressions, type of expressions, statistical expressions and their solution with respect to the computer, Algorithms, developing statistical algorithm Flowcharts, drawing statistical flowcharts,

C++: Introduction to C++, defining path for source files and output files, saving and retrieving source files, header files, built in functions and user defined functions and subprograms, type declaration statements, initialization, data types. Sorting techniques (Bubble, Insertion and Shell's Sorting Techniques), Binary Searching, Matrix addition, subtraction, multiplication, Sin, Cos, Tan, e^x Series. Writing programs for Averages (AM, GM, HM, Mode, Median from ungrouped data) Dispersions (Range, Quartiles, Inter-Quartile Range, MD, Variance, SD), Curves (Linear, Exponential, Geometric, 2nd Degree), Simple Linear Regressions, Simple Correlations, One way ANOVA, CR Experimental design.

Practical: Each student will be evaluated in groups (maximum of 10 students per group) by giving separate question paper relating to a statistical problem to process data and display results.

Books Recommended:

1. Let US C by V. Kanetkar Latest Ed..
2. Microsoft Borland C++, By Rabort Lafore. International Student Latest Edition,
3. The C++ programming Language Latest-Edition.

BS in Statistics Course-IV

English III (Technical Writing and Presentation Skills)

Objectives: Enhance language skills and develop critical thinking

Course Contents

Presentation skills

Essay writing

Descriptive, narrative, discursive, argumentative

Academic writing

How to write a proposal for research paper/term paper

How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)

Technical Report writing

Progress report writing

Note: Extensive reading is required for vocabulary building

Recommended Books

Technical Writing and Presentation Skills

a) Essay Writing and Academic Writing

1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 435407 3 (particularly suitable for discursive, descriptive, argumentative and report writing).
2. College Writing Skills by John Langan. McGraw-Hill Higher Education. 2004.
3. Patterns of College Writing (4th edition) by Laurie G. Kirszner and Stephen R. Mandell. St. Martin's Press.

b) Presentation Skills

c) Reading

The Mercury Reader. A Custom Publication. Compiled by Northern Illinois University. General Editors: Janice Neuleib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).

BS in Statistics Course-V

Numerical Methods

Credit Hours: 03

Course Outlines:

Numerical differentiation, numerical differentiation formulae based on interpolation polynomials, error estimates, numerical integration, Newton-Cotes formulae, trapezoidal rule, Simpson's formulas, composite rules, Romberg improvement, Richardson extrapolation, error estimates of integration formulas, Gaussian quadrature, difference and differential equations, formulation of difference equation, solution of homogeneous and non-homogeneous difference equations, system of difference equations, equation reducible to linear difference equations, approximation of the functions, the Taylor series method, Euler and modified Euler's, Runge-Kutta methods and method predictor-corrector methods for solving initial value problems along convergence and stability, differential equations of higher order, system of differential equations, shooting methods, boundary value problems, explicit and implicit finite difference methods.

Prescribed Books:

- 1) David Kincaid, Numerical Analysis, 3rd Edition, American Mathematical Society (2011)
- 2) Richard L. Burden, Numerical Analysis, Brooks Cole. July (2009)
- 3) S.D Conte and C. De Boor, Numerical Methods with MATLAB Wiley; 2nd Edition (2011)
- 4) Hans F. Weinberger, A First Course in Partial Differential Equations with Complex Variables and Transform Methods, Dover Publications Inc. (2012)
- 5) R. Kent Nagle, Edward B. Saff, Arthur David Snider, Fundamentals of Differential Equations, Addison Wesley Longman Inc. (2000)

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BS in Statistics
Course-V

Numerical Computing

BS in Statistics
Course-VI

Minor-II

BS in Urdu Course-I

تیسرا سمسٹر:

بنیادی کورس - ۵ کورس کوڈ: URDU-1201 کریڈٹ آورز: ۳

بیان و بدیع و عروض

○ بیان

تشبیہ، استعارہ، مجاز مرسل، کنایہ

○ بدیع

صنائع معنوی: حسن تعلیل، تضاد، ایہام، تلمیح
صنائع لفظی: مراعاة النظر، تجنیس، لف و نشر، ترصیع

○ علم عروض کے مباحث

اصطلاحات عروض

چار بحر یں (بحر متقارب، بحر ہزج، بحر رمل، بحر رجز)
کوئی سی دو بحر کی تقطیع

مجوزہ کتب:

- | | |
|-----------------------|-------------------|
| ۱۔ اصول انتقاد ادبیات | سید عابد علی عابد |
| ۲۔ البدیع | سید عابد علی عابد |
| ۳۔ البیان | سید عابد علی عابد |
| ۴۔ بحر الفصاحت | محمد نجم الغنی |
| ۵۔ مراۃ الشعر | عبدالرحمن |
| ۶۔ آسان عروض | ڈاکٹر محمد امین |
| ۷۔ اصناف سخن | شمیم احمد |
| ۸۔ اصناف ادب | رفیع الدین ہاشمی |

BS in Urdu Course-II

کریڈٹ آورز: ۳

کورس کوڈ: URDU-1202

بنیادی کورس-۶

❀ ادبی اصطلاحات ❀

❀ اصطلاح، ادبی اصطلاح اور اصطلاح سازی		
۱۔ فصاحت	۲۔ بلاغت	۳۔ عینیت
۴۔ مثالیت	۵۔ داخلیت	۶۔ خارجیت
۷۔ آفاقیت	۸۔ عالمگیریت	۹۔ کلاسیکیت
۱۰۔ رومانویت	۱۱۔ جدیدیت	۱۲۔ علامتیت
۱۳۔ وجودیت	۱۴۔ نزکیت	۱۵۔ حقیقت نگاری
۱۶۔ تائیدیت	۱۷۔ مارکسیت	۱۸۔ آمد و آورد
۱۹۔ سرقت و توارد	۲۰۔ المیہ	۲۱۔ طریبہ
۲۲۔ جمالیات	۲۳۔ تلازمہ	۲۴۔ محاکات
۲۵۔ تمثالیت	۲۶۔ اساطیر	۲۷۔ اظہاریت
۲۸۔ عصری حسیات	۲۹۔ اسلوبیات	۳۰۔ غنائیہ

مجزوہ کتب:

۱۔ درس بلاغت	شمس الرحمن فاروقی
۲۔ اصطلاح سازی	ڈاکٹر سلیم اختر
۳۔ منتخب ادبی اصطلاحات	ڈاکٹر سہیل احمد
۴۔ ادبی اصطلاحات	انور جمال
۵۔ چند منتخب ادبی اصطلاحات	ڈاکٹر فخر الحق نوری
۶۔ کشاف تنقیدی اصطلاحات	ابوالاعجاز حفیظ صدیقی
۷۔ ادبی اصطلاحات کی توضیحی فرہنگ	عتیق اللہ

BS in Urdu

Course-III

Computer

- 1. Introduction To Computer**
 1. Introduction to Computer.
 - 1.1. The Parts of a Computer System.
 - 1.2. Architecture of a Computer.
- 2. Standard Input Devices**
 - 2.1. The Keyboard.
 - 2.2. The Mouse.
 - 2.3. Devices for the Hand.
 - 2.4. Optical Input Devices.
- 3. Standard Output Devices**
 - 3.1. Monitors.
 - 3.2. Printers.
- 4. Processing Data.**
 - 4.1. Data Representation.
 - 4.2. Data Processing.
 - 4.3. Factor Effecting Processing Speed.
- 5. Standard Storage Devices**
 - 5.1. Magnetic Storage Devices.
 - 5.2. Optical Storage Devices.
- II. Practical**
 - 1. Window Operating System**
 - 1.1. What is Operating System?
 - 1.2. Managing Desktop.
 - 1.3. Managing Files and Directories.
 - 1.4. Searching.
 - 1.5. Basic Control Panel Features.

1.6. Software Installation.

2. Word Processing for English Language

2.1. The Word Processor Interface.

2.2. Opening and Saving a Word Document.

2.3. Entering and Editing Text.

2.4. Formatting Text.

2.4.1. Character Formatting.

2.4.2. Paragraph Formatting.

2.5. Document Formatting.

2.6. Special Features of Word Processing Software.

2.6.1. Tables.

2.6.2. Adding Graphics.

2.6.3. Adding References.

2.6.4. Adding Hyperlinks.

2.6.5. Creating Table of Contents.

2.6.6. Find and Replace Text.

2.6.7. Columns Formatting.

2.6.8. Printing Document.

2.6.9. Language Tools.

2.6.9.1. Spell Checkers.

2.6.9.2. Grammar Checkers.

2.6.9.3. Thesaurus.

Books Recommended

1. Peter Norton's (2000), Introduction to Computers
2. Long and long (1999), Introduction to Computers

BS in Urdu Course-IV

English III

○ Grammar:

- Pair of words
- Phrasal verbs
- Idioms
- Commonly Confused Words (e.g. Homonyms, Homographs, Homophones)
- Effective Word Choice
- Slang
- Cliches
- Pretentious Words
- Wordiness

○ Writing Skills

- Essay Writing
- Analytical
- Argumentative
- Expository
- Descriptive
- Narrative
- Precis Writing

○ Reading Skills

- Understanding graphic Presentations (data, diagram)
- Recognizing underlying assumptions and implicit arguments
- Critical Reading Skills

○ Speaking Skills

- Describing personal feelings
- Understanding and giving instructions
- Complaining and dealing with complaints
- Making and accepting suggestions

- o Discussing changes of plan
- o Presentations
- o Speeches
- o Non-Verbal Communication

Suggested Readings:

- o Azar, Betty Schrampher. (1996). Basics English Grammar (2nd English)
- o Azar, Betty Schrampher. (2000). Understanding and Using English Grammar (3rd Edition)
- o Boudin, E.M. (1984). Reader's Choice. Ann Arbour. University of Michigan Press
- o Business Communication (2006) M. Raman and P. Singh, New Delhi Oxford University Press,
- o Business Communication (2006) M. Raman and P. Singh, New Delhi Oxford University Press,
- o Eastwood, J. (2005). Oxford Practice Grammar. Karachi: Oxford University press
- o Jay, T. and Ros, J. (2005). Effective Presentation. New Dehli: Pearson Press
- o John Langan (1996) College Writing Skills 4th Edition: McGraw Hill
- o Judy Garton, Philip Prows, Exchanges Part A, (1985) Heinemann Educational Books, London
- o Moyer, R. (1980), Business English Basics: A Programmed Approach. New York
- o Taib, N. et.al. (2003), Basic English Workbook. Malaysia: McGraw Hill
- o Taib, N. et.al. (2003). Basic English. Malaysia: McGraw Hill

BS in Urdu

Course-V/VI

History

○ Course Content:

1. What is History?
2. Nature and scope of History
3. Benefits of History:
 - o History as a corrective force
 - o History as a repetitive force
4. Branches of History:
 - o Political
 - o Cultural
 - o Social
 - o Economic
5. Relationship of History with other social sciences
6. Causation
7. Objectivity and subjectivity
8. Classification of History:
 - o Narrative History
 - o Scientific History
 - o Philosophy of History
 - o Future History

○ Suggested Readings:

1. Bernard Cohn. An Anthropologist among Historians and Other Essay, Oxford University Press, 1988.
 2. Caroline Steedman. Dust: The Archive and Cultural History, Manchester University Press, 2002.
 3. Carlo, Ginzburg. Clues. Myths, and the Historical Method, John Hopkins: University Press, 1992.
 4. Carr, E. H., What is History? Harmondsworth: Penguin, 1961.
 5. Collingwood, R. G. The Idea of History. Oxford: Oxford University Press, 1978.
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BS in Urdu Course-V/VI

Persian

- مبادیاتِ قولیدِ فارسی: سابقہ لاحقے، اسم فاعل، اسم مفعول، مرکب ناقص، مصادر، افعال (ماضی، مضارع، امر، نہی)
- جدید فارسی بول چال: ○ فارسی شاعری اور نثر کا مطالعہ:
شاعری: عمر خیام، مولانا رومی، حافظ شیرازی، پروین اعتصامی، نیا یون شج
نثر: نظامی عروضی سمرقندی، شیخ سعدی، جلال آل احمد، صادق ہدایت
- ترجمہ و تشریحِ متن: ترجمہ: شیخ سعدی / گلستانِ سعدی (باب ہشتم 'در آدابِ صحبت'، پہلی ۱۰ حکایات)، دکتر سید سبط حسن رضوی، دکتر سید علی رضا نقوی / گلشنِ فارسی (دو جلدیں: منتخب حصے)
- ترجمہ و تشریح:

(الف) عمر خیام / چار منتخب رباعیات

- ۱۔ ہر چند کے رنگ و بوی زیباست مرا ۲۔ درکار گہ کوزہ گراں رتم دوش
 - ۳۔ ایں کہنہ رباط را کہ عالم نام است ۴۔ افسوس کہ نامہ جوانی ط شد
- (ب) حافظ شیرازی / دو منتخب غزلیں

- ۱۔ مرحبا طائرِ فرخ پئی فرخندہ پیام ۲۔ بیاتا گل بفتشائیم وے در ساغر اندازیم
 - ۳۔ ایں کہنہ رباط را کہ عالم نام است ۴۔ افسوس کہ نامہ جوانی ط شد
- (ج) پروین اعتصامی / اشکِ یتیم (د) محمد حسین شہر یار / حافظ جاویداں
- نوٹ: ترجمہ و تشریحِ متن سے ایک سوال لازمی ہوگا۔

مجوزہ کتب

- ۱۔ کلیدِ مصادر / منشی محمد عبداللہ
- ۲۔ ادبِ نامہ ایران / مرزا مقبول بیگ بدخستانی
- ۳۔ ایرانی ادب / ڈاکٹر ظہور الدین احمد
- ۴۔ نیا ایرانی ادب / ڈاکٹر ظہور الدین احمد
- ۵۔ شعر العجم / شبلی نعمانی
- ۶۔ فارسی ادب کی مختصر ترین تاریخ / ڈاکٹر محمد ریاض، ڈاکٹر صدیق شہباز
- ۷۔ گلشنِ فارسی (کتاب اول دوم) / دکتر سید سبط حسن رضوی، دکتر سید علی رضا نقوی
- ۸۔ خود آموز فارسی (جلد اول دوم) / پروفیسر فیروز رازی

BS in Urdu
Course-V/VI

Statistics

کریڈٹ آورز: ۳

کورس کوڈ: URDU-1105

لازمی کورس-۳

❁ شماریات ❁

○ **Introduction to Statistics:**

Descriptive and inferential statistics; population and sample, parameter and statistic; The four basic activities in statistics: Designing a plan for data collection, Exploring the data, Estimating an unknown quantity, Hypothesis testing; Type of measurement scales: Nominal, Ordinal, Interval and Ratio; Types of data: Univariate, Bivariate and Multivariate data, Primary and secondary data, Quantitative data and qualitative data, Time series, Cross-sectional and pooled data; Significant digits and rounding off numbers. Numerical examples and questions relating to all contents given in this topic.

○ **Presentation of Data and Measures of Central Tendency**

Introduction; Classification; Tabulating numerical data: The frequency distribution, the cumulative frequency distribution, the relative frequency distribution, the percentage frequency distribution; Graphic and diagrammatic representation: Bar chart, Pi chart, Histograms, Frequency curves and Histograms; Histograms by Hand: Stem-and-Leaf. Measure of central tendency; Introduction; Types of Averages: Mean: Arithmetic mean, Geometric mean, Harmonic mean, Trimmed and Winsorized means; Quintiles: Median, Quartiles, Deciles, Percentiles; The mode; Box plot and detailed box plot; Empirical relation between Mean, Median and Mode; The cumulative distribution function.

○ **Measures of Dispersion, Skewness and Kurtosis**

Absolute and relative measures of dispersion; Different measures of dispersion: The Range, Quartile deviation, Mean deviation, Variance and standard deviation: Definition and interpretation of variance and standard deviation, Computation of Variance and standard deviation, Step deviation method or coding method, Coefficient of variation, Standardized variable, Properties of

standard deviation and variance; Skewness: Karl Pearson's coefficient of Skewness, Bowley's coefficient of Skewness; Kurtosis.

○ Simple Linear Regression and Correlation Analysis

Scatter diagram; Standard methods for obtaining regression line: (i) Inspection, (ii) .Semi average, (iii) Least squares principle; Assumptions underlying linear regression and its properties; Measures of variations: Standard error of the estimate, Coefficient of determination; Prediction in Regression Analysis; Interpolation verses extrapolation; Correlation analysis; Scatter diagram; The coefficient of correlation: Properties/ characteristics of coefficient of correlation, Correlation and causation; The relationship among the correlation coefficient, the coefficient of determination and the standard error of estimate; Inference about the correlation coefficient; t-test for correlation coefficient; Rank correlation coefficient; Some Economic Applications.

○ Index Numbers

Index Numbers, Un-weighted index numbers; Simple aggregative index; Weighted indexes; Laspeyre's price index, Paaseche's price index; MarshalEdgeworth price index; Fisher's ideal index; Consumer Price Index (CPI), Producer Price Index (PPI), CPI versus GDP Deflator; Issues in constructing and using index numbers; Application of index numbers to business and economics.

○ Time Series

An overview of time series analysis; Component Factors of the classical multiplication time series model and their estimation: Secular trend; Cyclical variation, Seasonal variation, Irregular variation; Smoothing the annual time series and using it in forecasting: Moving averages, Weighted moving averages, Exponential smoothing; Using trend and seasonal component in forecasting; Time series and forecasting; Some Economic Applications.

Recommended Books:

- 1) H.K. Chow et al., Introductory Statistics, 2nd edition, Prentice Hall, 2007.
- 2) Barrow, M., Statistics for Economics, Accounting and Business Studies, 4th edition (Longman), 2005.
- 3) Agresti, Alan, Statistical methods for the social sciences, 3rd Edition, Upper Saddle River, N.J., London, Prentice Hall, 1997.
- 4) Mc Clave, J.M., Benson, P. G., Sincich, T., Statistics for Business and Economics (9th or 10th ed.) Pearson Publishing, 2005.
- 5) Berenson M L., D. M. Levine, and T. C. Krehbiel, Basic Business Statistics, 11th edition, Pearson Prentice Hall, 2009.
- 6) Lind, Marchal, Wathen, Statistical Techniques in Business and Economics, McGraw-Hill Companies, 12th Edition, 2005.
- 7) Chaudhry, Sher Mohammad and Kamal, Shahid, Introduction to Statistical Theory1 & 2, Lahore: Ilmi Kitab Khana, 2009.
- 8) J. Siegel, .Andrew F., Practical Business Statistics (5th edition). Boston: McGraw Hill, 2003.
- 9) New bold, Paul, Carlson, William L. and Thorne, Betty M, Statistics for Business and Economics (5th edition), New Jersey: Prentice Hall, 20m.
- 10) Keller, Gerald and Warrack, Brian, Statistics for Management and Economics (5th edition). Boston: Duxbury

BS in Zoology

Course-I

Course Title: English III: Communication and Presentation

SkillsLevel: BS 3rd

Course Code: ELL202

Course Description

For professional growth and future development, effective presentation skills and interactive and interpersonal communicative skills are very important. This course offers methods, techniques, and drills significant and useful in optimising communication and presentation skills of the learners, enabling them to face divergent groups of audience with poise and confidence. The course has been divided into modules relating to the essentials, contents, gestures, technology, and variety associated with communication and presentations skills. The presentation skills part focuses on preparing students for long-life skill of preparing and giving presentations. Communication is a vital part of our daily routine. The communication skills part focuses on developing good communication skills among students.

Course Objectives

The course aims to:

- help students identify essential components of a presentation
- develop the awareness, knowledge, skills and attitudes required to deliver effective academic presentations and communicate clearly
- help students learn various presentation and communication styles and techniques
- provide techniques to facilitate effective interpersonal and interactive communication
- guide how to build stronger relationships through powerful communication

Course Contents

9. Introduction
 - Understanding the purpose of Communication
 - Analyze the Audience
 - Communicating with words as well as with body language
 - Writing with a Purpose
10. Presentation skills
11. Delivering your presentation
12. Speaking with Confidence
13. Communicating Effectively
14. Job Interviews and Communicating Skills
15. Communicating with Customers
16. Communication in a Team

Recommended Readings:

- Carnegie, Dale. (). *How to Win Friends & Influence People*.
- Giblin, Les. *Skill with People*.
- Newton, Paul. *How to communicate effectively*.
- Tracy, Brian. *Speak to Win*.

BS in Zoology
Course-II

Class: _____ **Semester-** _____ **Session:** _____

Instructor			Email:		
Course Title	Computer Applications		Program	BS	
Course Number	Comp 00302		Credit Hours	3(2+1)	
Lecture	.....day: period (00:00a.m to 00: 00a.m), Room# 00				
Course Objective: Give students an in-depth understanding of why Computers are essential components in business, education and society. Introduce the fundamentals of computing devices and reinforce Computer vocabulary, particularly with respect to personal use of Computer hardware and software, the Internet, networking and mobile computing. Provide hands-on use of Microsoft Office applications Word, Excel, Access and PowerPoint. Completion of the assignments will result in MS Office applications knowledge and skills.					
Methods of Teaching <ul style="list-style-type: none">Assigned readingsGroup activities & DiscussionAudiovisual aids lecturesWeb-assisted instructionStudent-Directed Teaching					
Resource Material	4. DISCOVERING COMPUTERS FUNDAMENTALS (1 st Edition)SHELLY VERMAAT				
	5. Absolute Beginner's Guide to Computer Basics (5thEdition) Michael Miller Que Publishing				
	6. How Computers work (9 th Edition) Ron White				
	2.Reference Books		3.Research Papers		
	i		i		
	li		ii		
	4.Hot Research Papers		5.Web Resources		
i		i			
li		ii			
Office Help Hours					
Grading	Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)				
Problem Session	.....day: 00 and 00 periods (0:00-00:00am), Room# 00				
SEQUENCE OF TOPICS TO BE COVERED					
Lecturer #	Topics (outline of main topics and sub topics)		Chapter #	Tutorial /Laboratory	
1	Introduction of course				
2	Basic concept of Computer				
3	Computer applications				
4	Computer generations				
5	Computer Components				

6	Computer Types		
7	Computer input Devices		
8	Computer output Devices		
9	Computer – Memory Primary Memory Secondary memory Cache memory		
10	Random Access Memory Static RAM Dynamic RAM		
11	Read Only Memory MROM PROM EPROM EEPROM		
12	Memory units Numbers system		
13	Computer Hardware Relationship Between Hardware and Software Motherboard		
14	Computer Software System Software(Operating System)Types of Operating System		
15	Application Software Utility Software Open Source Software		
16	Mid Term Exam		
17 & 18	Office Tools Detail Word processor Spread Sheet Presentation sheet Data Base Management Domain specific tools		
19 & 20	Computer Networking Local Area Networking Wide Area Networking Metropolitan Area Networking Networking Topologies		
21 & 22	MS Word Creation of Document Designing, Editing and Formatting.		

23 & 24	World Wide Web History Internet Creation of Account in Gmail, Outlooketc. How to use one drive How to use google drive		
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25 & 26	Working with Spread Sheet Tables Different Operations		
27 & 28	Power Point Presentation SheetUsing the Power Point CreatingPresentation Designing, Editing and Formatting		
29 & 30	Class test, Quiz & Discussions		
31	Discussion from 1-30		
32	Final Term Exam		

Student Evaluation criteria:

Attendance	10
Workshop / Assignments/Case study	
Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

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Instructor / Tutor

Approved by:

Chairman

BS in Zoology
Course-III

Tentative Course Plan

Class: B.S

Semester- 3rd
Session:

Instructor		Email:	
Course Title	Geography of Pakistan	Program	BS
Course Number	GEOG-03103	Credit Hours	3(3+0)

Lecture	Monday, Wednesday and Friday		
Course Objective: This course attempts to impart knowledge about the relationship between man and physical, socio-economic and cultural environment with special reference to Pakistan, including land, population, human settlements, resources and related human activities.			
Methods of Teaching <ul style="list-style-type: none">Assigned readingsGroup activities & DiscussionAudiovisual aids lecturesWeb-assisted instructionStudent-Directed Teaching			
Resource Material	1. Text Books 3. Khan, F. K. (1991) Geography of Pakistan, Oxford University Press, Karachi Spate, O. H. K. (2004) India and Pakistan, Munshiram Mohoanlal Publications Pvt. Ltd., UK. 4. Tayyeb, A. (1973) A Political Geography of Pakistan, Oxford University Press. Oxford.		
	2.Reference Books		3.Research Papers
	i	The environment of Pakistan (Huma Naz Sethi)	i Hameed, A. (1972) Study of the Middle Indus Basin, San Francisco State College, San Francisco. Johnson, B.L.C (198).
	ii	Topography of Pakistan	ii Burkey, J. S. (1991) Pakistan the continuing search for Nationhood, Western Press Oxford, UK.
	4.Hot Research Papers		5.Web Resources
	i	Dichter, D. (1967) Geography of N-W.F.P, Oxford University Press, Oxford.	i https://en.wikipedia.org/wiki/Geography_of_Pakistan
	ii	Hameed, A. (1972) Study of the Middle Indus Basin, San Francisco State	ii https://www.britannica.com/place/Pakistan
Office Help Hours			
Grading Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)			
Problem Session Monday, Wednesday and Friday			
SEQUENCE OF TOPICS TO BE COVERED			
Lecturer #	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory
1	Introduction, Orientation, Course Outline		
2	Definition, Concepts		
3	Location of Pakistan		
4	Geographical significance of Pakistan		
5	Geo-political Importance of Pakistan		
6	Administrative setup of Pakistan		
7	Land and Physical Environment		
8	do		
9	Physiography of Pakistan		

10	do		
11	Climate and climatic regions		
12	do		

13	Hydrological setup of Pakistan		
14	Indus water Treaty		
15	Soils, vegetation		
16	forests in Pakistan		
	Mid Term Exam	Course/Discussion from session 1 to 16	
17	Population characteristics: structure, composition		
18	distribution and population change		
19	Urbanization in Pakistan		
20	Urban structure		
21	Agriculture (crops and livestock)		
22	do		
23	Power resources in Pakistan		
24	Mineral resources in Pakistan		
25	Industries in Pakistan		-
26	Trade of Pakistan		-
27	Tourism in Pakistan		-
28	do		-
29	Transport		-
30	Communication		
31	Major challenges of Pakistan Water		
32	power, security		
	Final Term Exam	Course/Discussion from session 1- 32	

Student Evaluation criteria:

Attendance	10
Workshop / Assignments/Case study	
Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

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Approved by:
Chairman

Instructor / Tutor

BS in Zoology

Course-IV

Zool-01303

Wildlife Management

3(2+1)

Wildlife of Pakistan, identification, distribution, status, conservation and management (population estimate technology) of fishes, reptiles, birds and mammals of major importance in Pakistan. Philosophy and significance of wildlife conservation. Biodiversity and sustainability of wildlife. Wildlife rules and regulations in Pakistan. National and International agencies involved in conservation and management of wildlife. Sanctuaries, Game Reserves and National Parks in Pakistan. Ramsar convention, wetlands, endangered species of Pakistan.

Practical

Study of wild life maps of Punjab, Sindh, NWFP & Balochistan and AJ&K. Ecolog notes on different formal species.

Recommended Books:

1. Bailey, J.A. Principles of Wildlife Management, 1986. John Wiley and Sons..
2. Ali S. and Ripley S.D. A Handbook of Birds of India & Pakistan, 1973. Oxford University Press, London.
3. Roberts, T. J. The Birds of Pakistan, (Vol. I). 1992. Oxford University Press.
4. Roberts, T. J. The Birds of Pakistan, (Vol. II), 1998. Oxford University Press.
5. Roberts, T.J. Mammals of Pakistan. 1977. Ernest Benon Ltd, London.
6. Robinson, W.L. and Bolen, E.G. Wildlife Ecology and Management. 1984. McMillan, Cambridge.
7. Magon, C.F. Biology of Freshwater Pollution. 1988. Longman and Scientific Publication
8. Boyd, C.E. and Tucker, C. S. POND Aquaculture and Water Quality Management. 1998. Boston, Kluwer Publishers Alabama.
9. Ali, S.S. Paleontology, Zoogeography & Wild-Life Management. 1999. Nasim Book Depot. Hyderabad, India.

BS in Zoology

Course-IV

Class: BS

Semester- 3rd

Session: 2020-24

Instructor		Email:	
Course Title	Cell Biology, Genetics & Evolution	Program	BS
Course Number	BOTA-01304	Credit Hours	4(3+1)
Lecture	.....day: period (00:00a.m to 00: 00a.m), Room# 00		
Course Objective:			
7. To enable the students to understand structure and functions of cell, nature of genetic material and hereditary process ,familiarization with evolutionary processes			
8. To enable the students to access & generate new knowledge in purposeful fashion.			
9. Gene expression regulation during embryogenesis			
10. Gene expression misregulation in carcinogenesis			
11. To understand that a phylogenetic tree depicts lines of evolutionary descent			
12. To understand that no living species is ancestral to another			
Course Outcomes:			
Graduates of the Genetics and Biotechnology BS program will be able to:			
9. Students will learn the basic principles of inheritance at the molecular, cellular and organismal levels. 2.			
10. Students will understand causal relationships between molecule/cell level phenomena (“modern” genetics) and organism-level patterns of heredity (“classical” genetics)			
11. Students will test and deepen their mastery of genetics by applying this knowledge in a variety of problem-solving situations			
12. Display a broad understanding of core molecular genetics concepts including molecular biology, genetics, cell biology, physiology, and evolution.			
13. Understand the evidence that living species share descent from common ancestry and how this fact explains the traits of living species			
14. Understand that evolution entails changes in the genetic composition of populations			
15. Understand the source of genetic variation and how it is shaped in the absence of selection (Hardy-Weinberg; genetic drift)			
16. Understand the concept of fitness and how heritable differences in fitness result in natural selection.			
Methods of Teaching			
<ul style="list-style-type: none">Assigned readingsGroup activities & DiscussionAudiovisual aids lecturesWeb-assisted instructionStudent-Directed Teaching			
Resource Material	1.Books Prescribed		
	Latest additions of books will be recommended from stock available in the main library of the university		
	Cell biology, genetics, molecular biology, evolution and ecology by verma, agarwal 2005,		
	Cell and molecular biology, by P. K Gupta, 2012.		
	Cytology Genetics Evolution and Ecology By P. K. Gupta. 2010.		
	2.Reference Book		3.Research Papers
	i		i
	ii		ii
4.Hot Research Papers		5.Web Resources	
i		i	
ii		ii	
Office Help			
.....day, .....day: 00:00am			

Hours			
Grading	Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)		
Problem Session	.....day: 00 and 00 periods (0:00-00:00am), Room# 00		
SEQUENCE OF TOPICS TO BE COVERED			
Session/Week	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory
1	Introductory lectures		
2 & 3	Structures and Functions of Bio-molecules v. Carbohydrates vi. Lipids vii. Proteins viii. Nucleic Acids		Extraction and estimation of carbohydrate, protein,
4 & 5	Physico-chemical nature of plasma membrane and cytoplasm. Ultrastructure of plant cell with a brief description and functions of the following organelles i. Cell wall ii Endoplasmic reticulum iii. Plastids vi. Mitochondria		Study of cell structure using compound microscope and elucidation of ultrastructure from electron microphotographs
6 & 7	Ultrastructure of plant cell with a brief description and functions of the following organelles viii. Ribosomes ix. Dictyosomes x. Vacuole		
8 & 9	Nucleus: Nuclear membrane, nucleolus, ultrastructure and morphology of chromosomes, karyotype analysis		
10 & 11	Reproduction in somatic and embryogenic cell, mitosis and meiosis,		Study of mitosis and meiosis by smear/squash method and from prepared slides
12 & 13	Chromosomal aberrations; Changes in the number of chromosomes. Aneuploidy and euploidy. Changes in the structure of chromosomes, deficiency, duplication, inversion and translocation		
14 & 15			
16	Mid Term Exam	Course/Discussion	
17 & 18	Introduction, scope and brief history of genetics. Mendelian inheritance; Laws of segregation and independent assortment, back cross, test cross, dominance and incomplete dominance		Genetical problems related to transmission and distribution of genetic material

19 & 20	Sex linked inheritance, sex linkage in Drosophila and man (colour blindness), XO, XY, WZ mechanisms, sex limited and sex linked characters, sex determination		
21 & 22	Linkage and crossing over: definition, linkage groups, construction of linkage maps, detection of linkage		
23 & 24	Molecular genetics; DNA replication. Nature of gene, genetic code, transcription, translation, protein synthesis, regulation of gene expression (e.g. <i>lac</i> operon)		
25 & 26	Transmission of genetic material in Bacteria: Conjugation and gene recombination in <i>E.coli</i> , transduction and transformation		
27 & 28	Principles of genetic engineering / biotechnology		
29 & 30	The nature of evolutionary forces, adaptive radiations, differential reproductive potential, first plant cell, origin of organized structures.		
31	Course/Discussion		
32	Final Term Exam		

Student Evaluation criteria:

Attendance	10
Workshop / Assignments/Case study	
Surprise Test/Sudden Test , Quizzes	
Class Participation	
Mid Term Paper	20
Final Term paper	70
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in “F Grade”. Students may prepare Sketchbook for taking notes and for references.

Instructor/Tutor

Approved by:

Dean/ Chairman/ HOD/ Subject Specialist/
Program Coordinator