

*Placed at the meeting of
Academic Council
held on 26.03.2018*

APPENDIX - CQ
MADURAI KAMARAJ UNIVERISTY
(University with Potential for Excellence)
New Course

B.Sc. Jewellery Design and Management (Semester)

CHOICE BASED CREDIT SYSTEM

(With effect from the academic year 2018-2019 onwards)

REGULATIONS AND SCHEME OF EXAMINATIONS

1. INTRODUCTION OF THE PROGRAMME:

From ancient times human beings love to adorn themselves with jewellery and it has been intrinsic to our culture. The course deals with the subjects related to jewelry design from conceptualization, designing, drafting, and material science, making and finishing aspects of jewellery. The course helps to keep abreast of international trends in jewellery design. The program teaches about all the facets of jewellery trade – from mastering, hand-rendering and casting to analyzing and appraising gemstones and acquiring computer aided design skills. The program is a good blend of design and management modules imparting essential managerial skills to the learner. This course is designed for the ambitious, enthusiastic and determined career seeking students. The course provides the student with hands on training Experience in all aspects of Jewellery from Concept building, Manufacturing, CAD/CAM, Merchandising, and Product Development along with Management Training. The Jewellery Design industry is one of the fastest changing and most dynamic industries in the world today. Accessory industry refers to platform that offers people the scope to display collection of jewellery that they design and an opportunity to the buyers to know about the latest trend which is prevailing in the market. Jewellery industry is a glamour world that fascinates billions of YOUTH to establish their careers. Jewellery in INDIA has become a growing industry with international events such as HONKONG FAIR, IIGJ FAIR'S and India Fashion Week. Now-a-days jewellery shows are very much popular. The Indian fashion market has become more pronounced and energized with global players. Before an article of jewellery is created, design concepts are rendered followed by detailed technical drawings generated by a jewellery designer. A professional is trained in the architectural and functional knowledge of materials, fabrication techniques, composition, wear ability and market trends. Traditional hand-drawing and drafting methods are still utilized in designing jewellery, particularly at the conceptual stage. However, a shift is taking place to computer-aided design programs like Rhinoceros 3D and Matrix. Whereas, the traditionally hand-illustrated jewel is typically translated into wax or metal directly by a skilled craftsman. A CAD model is generally used as the basis for a CNC cut or 3D printed 'wax' pattern is used in the rubber molding or lost wax casting processes

2. ELIGIBILITY FOR ADMISSION:

A candidate for admission to B.Sc Jewellery Design and Management shall be required to have passed the Higher Secondary Examination conducted by the Government of Tamil Nadu or an Examination accepted as equivalent there by the Madurai Kamaraj University with a minimum of 40% of marks in Aggregate.

Age:

The maximum age limit to admit a candidate in B.Sc Hotel Management and Catering Science is 25 years and for S C / ST students three years of relaxation can be given.

2.1 Duration of the Programme : 3 Years

2.2 Medium of Instructions : English

3. OBJECTIVES OF THE PROGRAMME

The main objectives of the programme are:

- The programme is a blend of a creative palette of an individual in the area of Jewellery Designing, CAD, Diamond Grading, Gemology, Export Management and Accessory Designing.
- Jewellery Design Graduate course brings out each individual's innate creativity, helping enthusiasts to design with ability and confidence. It makes an apprentice designer learn the basics and complexities of designing any type of jewellery, along with estimating its cost. Through practical work, designers are assisted to express their creativity by designing a portfolio of their own styles
- Specialization in Accessory Design is a bachelor programme that is one of its kinds in the country. It has a well-defined curriculum for developing integrated expertise in design methodology, materials and production process, consumer behavior and market dynamics, trends and forecast interpretations, business practices and project management in the field of fashion and lifestyle accessories.
- A strong industry orientation is reflected in its credo 'Design for Business' with the most successful industry education interface in student learning. The programme has gradually evolved to address the entire spectrum of accessories, precious and costume jewellery, belts buckles, footwear broaches, watches, giftware, silverware, and visual merchandising. Each JIMS centre is expected to provide national leadership in the area of its specialization. The specializations are Precious Jewellery, Costume Jewellery, Silverware, Giftware using Precious Metals and Precious Stones
- Accessory Design program prepares students for careers as Designers, Brand Managers, Visual Merchandisers, Product Managers and Entrepreneurs in the broad areas of precious and costume jewellery, leather goods, giftware, watches, footwear, handicrafts and lifestyle Jewellery within the specialization.

- With education comes knowledge, as well as the confidence necessary to buy, sell and appraise jewellery. Each year, thousands of professionals and consumers enroll in the Gemology. Whether you want to become a confident buyer, a diamond grader, jewellery designer, sales professional or Graduate Gemologist, worldwide schools offer an unrivaled range of coursework, spanning everything from rough diamond grading to gemstones, diamonds, pearls, modern treatments and computer-assisted jewellery design.
- Internship will be in reputed brands like Tanishq, Kama Jewellers, Gili, PP, PC JEWELLERS etc.

4. OUTCOME OF THE PROGRAMME

Jewellery Consultant

- Jewellery Designer
- Freelancer
- Merchandiser
- Jewellery Manufacturer
- Pd Executive
- Cad Designer
- Exports Manager
- Diamond Buyer
- Diamond Assort
- Diamond Grader
- Valuer/Appraiser
- Diamond Broker
- Jewellery Buyer
- Jewellery Manufacturer
- Retailer/Showroom Owner
- Lab Owner
- Rough Diamond Trader
- Rough Diamond Assorter
- Rough Diamond Planner
- Gemstone Buyer
- Gemstone Assorter
- Gemstone Broker
- Importer/Exporter
- Jewellery Show Organizers
- Fashion Jewellery Designers
- Jewellery Consultant
- Product Design House
- Showroom Owner
- Jewellery Retail Brands

5. CORE SUBJECT PAPER:

All the core papers are mentioned inside the course structure.

6. SUBJECT ELECTIVE PAPER:

The subject elective papers are mentioned inside the course structure.

7. NON – SUBJECT ELECTIVE PAPER:

Non Major Elective paper as prescribed by the Department of Jewellery Design and Management.

8. UNITIZATION:

Each Subject is segregated into five units with each unit consisting of equal distribution of major concepts.

9. PATTERN OF SEMESTER EXAM:

Examination will be conducted at the end of each semester. Each Semester has two patterns of examination namely Internal (25 marks) and external (75marks).

10. SCHEME FOR INTERNAL ASSESSMENT:

The Internal assessment will be as follows:

Test	=	10Marks (Average of the best two tests)
Assignment	=	5 marks
Seminar / Group Discussion	=	5 marks
Peer- team – teaching	=	5 marks
Total	=	25 marks

11. EXTERNAL EXAM:

External Examination will be conducted as semester exams as per University norms with common question paper for all affiliated colleges.

12. QUESTION PAPER PATTERN:

The exciting Pattern of Question Paper will be as follows.

Time: 3 Hours

Maximum Marks: 75

Section A: (10*1=10 Marks) Question No: 1 to 10 (Multiple Choice Pattern)

1. Two questions from each Unit.
2. Four Choices in each questions
3. No “None of these: choice.

Section B: (5*7=35 Marks)

1. Answer all Questions either (a) or (b)
2. Answer not exceeding two pages
3. One Question from each unit.

Section C: (3*10=30 Marks)

Answer should not exceed Four Pages. Answer any Three out of Five (One Question from each Unit).

13. SCHEME FOR EVALUATION:

External Evaluation is done at the University level by Central Evaluation Procedure.

14. PASSING MINIMUM:

Passing Minimum for the PG Course is 40 marks in Internal and External Separately.

15. MODEL QUESTIONS:

BASIC TECHNIQUES IN JEWELLERY DESIGN

TOTAL MARKS: 75

DURATION: 3 Hrs.

PART- A

CHOOSE THE BEST ANSWER

ANSWER ALL THE QUESTIONS

(10 X 1=10)

1. _____ colours are the colours that are next to each other on the colour wheel.
a) analogous b) monochromatic c) secondary d) warm
2. _____ is the ratio of one part of the composition to another.
a) scale b) dimension c) proportion d) perspective
3. _____ is where you randomly examine material or information without a definite goal
a) researching b) purposive browsing c) reading d) capricious browsing
4. _____ is mostly used to ink the manufacturing specification sheets / technical sheet / technical drawings but sometimes we use to ink the outline of our design which we colour.
a) rotring isograph pen b) poster colours c) drawing pencil d) pencil colours
5. Mirroring techniques will produce a ----- motif
a) symmetrical b) scaled - up c) reduced d) distorted
6. _____ is the organization of elements and principles into a whole
a) Unity b) harmony d) continuance d) closure
7. _____ is where one colour is used but in different values and intensity.
a) Monochromatic b) tint c) shade d) harmony
8. _____ is the plate which we use to mix the water based colour to get the desired colour and hue
a) colour palate b) drawing board c) mixing plate d) template
9. _____ is a panel for the purpose of display in public places such as road, building etc.
Abill boards b) print ads c) catalogue d) brochure
10. _____ of an object is the area where you want the viewer to look first
a) emphasis b) space c) positive space d) local point

PART-B (5X7=35 marks)

ANSWER ALL QUESTIONS

1. a) Write a note on types of presentation (Or)
b) Explain the different methods of polishing a stone.
2. a) What is the importance of documentation and compilation?(Or)
b) Write a note on grading.
3. a) What do you mean by final jewellery design concept?

(Or)

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- b) What are the various types of colour grading factors ?
4. a) Explain the process of waxing. (Or)
b) Discuss in brief about the alternative materials used for fashion jewellery.
5. a) Discuss the process of enamelling. (Or)
b) Write a note on use of various metals in jewellery making.

PART-C (3X10=30 marks)
ANSWER ANY THREE QUESTIONS.

1. What are the principles of design? Explain in brief about each of them.
2. Write a note on Gestalt and his concept.
3. Why do you think crating style variations of a product is important for a jewellery designer?
4. Explain the process of vacuum casting process.
5. Write a note on safety measures and precautions to be followed while working on floor.

16. TEACHING METHODOLOGY:

To enhance the quality of students through creative and effective teaching the following teaching methodologies by classroom teaching methods, Practical training, Power Point Presentation classes, Guest lectures, Demonstrations and Internship for one month after each semester and study tour programmes.

17. TEXT BOOKS:

The text books are mentioned below each individual paper.

18. REFERENCE BOOKS:

The reference books are mentioned below each individual paper.

19. RETOTALLING AND REVALUATION PROVISION:

Revaluation and re totaling shall be pursued by submission of respective application forms duly filled and authorized by the head of the Institution as per University norms. The applications must reach the University within the stipulated time frame as set by University.

20. TRANSITORY PROVISION:

The revision of syllabus shall be done once in three years for better enhancement and updations.

21. SUBJECT AND PAPER RELATED WEBSITE:

The websites are mentioned below the reference books column for every subject.

e) Industrial Internship:

- After completion of 5th semester, including semester holidays during 6th semester an internship program shall be attended by the students under the supervision of internal and external guide and submit a report

- Evaluation of internship project: 30 marks for Continues Assessment, 40 marks for Report by subject faculty, VIVA VOCE for 30 marks conducted by Internal and external examiner selected by BOE
- c) project work (Portfolio)**
- During the 6th semester students will work on their final portfolio under the guidance of the allotted guide.
 - Continues Assessment will evaluated by 25 marks, portfolio work shall be evaluated for 40 by internal guide, VIVA VOCE for 30 marks conducted by Internal and external examiner selected by BOE

SCHEME OF EXAMINATIONS

I SEMESTER

PAPER	TITLE OF THE PAPER			
		Course	Hrs.	Credits
	PART I			
	TAMIL I			
	PART II	1	6	3
	ENGLISH I	1	6	3
	CORE MAJOR			
	HISTORY OF JEWELLERY AND ART	1	4	4
	FUNDAMENTALS OF DESIGN (practical)	1	4	4
	SUBJECT ELECTIVE			
	COMPUTER FUNDAMENTALS	1	4	3
	MANAGEMENT OF ORGANISATION	1	6	4
	NON MAJOR ELECTIVE			
	FUNDAMENTALS OF COLOUR THEORY IN JEWELS	1		2
	TOTAL		30	23

II SEMESTER

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PAPER	TITLE OF THE PAPER	Course	Hrs.	Credits
	PART I			
	TAMIL II			
	PART II	1	6	3
	ENGLISH II	1	6	3
	CORE MAJOR			
	BASIC TECHNIQUES IN JEWELLERY DESIGN (Practical)	1	2	3
	CLASSIFICATION OF JEWELLERY PRODUCTS (Practical)	1	2	3
	SUBJECT ELECTIVE			
	HUMAN RESOURCE MANAGEMENT	1	6	6
	METALLURGY	1	6	4
	NON MAJOR ELECTIVE			
	GEMS AND GEM STONES	1		2
	TOTAL		26	24

III SEMESTER

PAPER	TITLE OF THE PAPER	Course	Hrs.	Credits
	PART I			
	TAMIL III	1	6	3
	PART II			
	ENGLISH III	1	6	3
	CORE MAJOR			
	GOLD SMITHING -I	1	3	3
	HISTORY OF JEWELLERY DESIGN	1	3	4
	SUBJECT ELECTIVE			
	ADVANCED TECHNICAL DESIGN (PLAIN METAL)/ (Practical)	1	3	3
	DIAMONDS – I	1	4	4
	DIAMONDS - II (Practical)	1	3	3
	NON-SUBJECT ELECTIVE			
	COREL DRAW (Practical)	1	2	2
	TOTAL		30	28

IV SEMESTER

PAPER	TITLE OF THE PAPER	Credits		
		Course	Hrs.	Credits
	PART I			
	TAMIL IV	1	6	3
	PART II			
	ENGLISH IV	1	6	3
	CORE MAJOR			
	GEMMOLOGY – I	1	3	3
	GEMMOLOGY – II (Practical)	1	3	3
	SUBJECT ELECTIVE			
	BASIC JEWELLERY DESIGN	1	3	2
	ADVANCED TECHNICAL DESIGN (STUDED)/ (Practical)	1	3	4
	NON SUBJECT ELECTIVE			
	JEWELLERY ENTREPRENEURSHIP	1	3	3
	MANUFACTURING TOOLS AND TECHNIQUES – I	1	3	2
	EXTENSION ACTIVITIES			1
	TOTAL		30	24

V SEMESTER

PAPER	TITLE OF THE PAPER	Credits		
		Course	Hrs.	Credits
	CORE MAJOR			
	ADVANCED TREND DESIGN AND PORTFOLIO (Practical)	1	2	2
	CAJD (RHINO)/(Practical)	1	2	2
	SUBJECT ELECTIVE			
	LUXURY & RETAIL JEWELLERY SEGMENTS	1	6	4

	GEM AND JEWELLERY EXPORTS	1	6	4
	MANUFACTURING TOOLS AND TECHNIQUES – II (Practical)	1	2	2
	INSTRUMENTAL STUDIES	1	6	4
	MARKETING, BRANDING AND MANAGEMENT	1	6	4
	ENVIRONMENTAL STUDIES			2
	TOTAL		30	24

VI SEMESTER

	Industrial Exposure Training and Viva Voce Internship			15
	VALUE EDUCATION			2

SEMESTER - I

HISTORY OF JEWELLERY AND ART

OBJECTIVES:

The objective of this course is to impart knowledge of the History and importance of Jewellery from ancient times.

Unit I1

History of Art and Jewellery

Introduction to art and ornament, The ancient world, The middle age / masterpiece of middle age, Materials used in jewellery and ancient methods, Baroque to revolution

Unit 2

Jewellery Eras from 18th & 19th century Great Britain

Georgian era jewellery (1714 to 1830, Victorian era jewellery (1837 to 1901)...mid and late Victorian period, Edwardian period jewellery, La Belle époque jewellery (1895 to 1914)

Unit 3

Art Nouveau

Origins, Form and character, Relationship with contemporary style and movements, Sculpture and jewellery

Art Deco or style modern

Etymology, origins and history, Art deco characteristics and materials, Retro, Influence.

Unit 4

Indian jewellery

History of Indian jewellery (The origin and growth of jewellery in India), Types of Indian Jewellery, A historic recount of Mughal jewellery, Significances of Indian jewellery, Tribal jewellery.

Unit 5

JBI (Jewellery business in India)

Identification of ancient jewellery using Sanskrit, Hindi & other metallic coins and their trend, Specialty in ornaments worn by people in different state and region, Importance of jewellery – Currency, Functional use, Symbolism, Protection, Artistic Display and Personal Expression. Modern trends in jewellery designs in India, Application of knowledge on ancient Indian jewellery to design modern jewellery.

References Books

1. Jewellery of India by Chaturvedi.
2. Jewellery and personal adornment by Kamala Dong.
3. Traditional jewellery by Oppi Untracht.

FUNDAMENTALS OF DESIGN

OBJECTIVES:

Unit 1

Foundation Art

Introduction to materials-(black and white), Drawing Lines (horizontal, vertical, wavy, diagonal, broken, thick and thin, gradation, spirals etc), Different pencils and their uses, Forms-circles, squares, other Geometrical shapes.

Unit 2

Introduction to Color Concept

Basic colour concept, Different color groups, Simple and complex color wheel, colour Gradation

Rendering

Basic rendering concept, Light effect on different objects, Shading of different forms and shapes Black and white object rendering,

Unit 3

Métal rende ring techniques

metal effect rendering-different objects, plain metal rendering-14kt, 18kt, 22kt &24kt, Brush finish, hammering, sand blast, rosé gold, Antique finish (Silver and Gold)

Unit 4

Motif formation

Définition & types of Motifs, composition with motifs-formal / informal & Positive and negative, motif development-form generation & Manipulation, Translating motif compositions into Jewellery design.

Unit 5

Perspective

Introduction to various perspective views, use of perspective in representing jewellery, One&

Two point perspective- vanishing point, construction of objects in various angles, Isometric Projection- methodology, uses, construction of objects using isometric projection & Planometric drawing, Orthographic projection

JEWELLERY COMPONENTS

Objectives:

By the end of this session, students should:

Demonstrate knowledge of the technical specifications of primary Jewellery components;
Demonstrate knowledge of the aesthetic qualities of primary Jewellery components;
Demonstrate an understanding of the functional qualities of primary Jewellery components;
Demonstrate innovative application of the technical, functional and aesthetic qualities of primary components to individually designed Jewellery; Demonstrate knowledge of the care, maintenance and safety aspects of the tools,• equipment and machinery involved in the design and manufacture of Jewellery; Exhibit a knowledge and understanding of contemporary Jewellery.

Unit I :-

Jewellery using animal products Horns, bones, skin, hair, fish-bones, fish-scales etc.- How are animal bones used for jewellery art- Extraction of animal bones, making-jewellery out of animal teeth, claws, horse hair jewellery, shell beads, puka shellsNatural-abalone paua shell cowrie shell.

Unit II :-

Sterling silver Alloy Real 925 sterling silver. Fake Siler- sterling silver jewellery- difference between jewellery and ornaments- clasps, sterling silver stations, head and eye pins, bead caps.

Unit III :-

Cabochon- Meaning of cabochon definition- Gemstone- cabochons- glass or other material-shaped and polished- cabochon- settings to create own cabochon jewellery- create vintage style- game jewellery from the selection of synthetic and natural material- cameos, cabochon cutting- oldest form of cutting.

Unit IV : Different types of Natural wood beads :- bayong, Ebony, Gray wood,- Jackfruit tree wood (Nangka) palm wood, Rosewood. Use of threads and silk threads in jewel making.

Unit V

Pearl- Etymology- Fresh water and salt water pearls and farming natural pearls- Imitation pearls. Origin of Natural pearl – different and naturally coloured pearls – identification of duplicate pearls.

COMPUTER FUNDAMENTALS

OBJECTIVES:**Unit 1****Introduction**

Introduction and basic concepts of computer, Development of computer systems, Generations of computer, Applications of Computer, Input/output devices, Types of computer- Super Computer, Mainframe Computer, Mini Computer, Micro Computer, Components of a computer.

Unit 2

Computer Storage, Computer memory, RAM, ROM, Secondary storage devices, Hardware and software, Types of software, System software- Computer languages, Translators, Application software's, Operating systems.

Unit 3

Computer Networking, Types of Networks- LAN, WAN, MAN, Internet and intranet, connecting to Internet, Internet Applications, Search Engines, and Network Topology. Database, Elements of database, Database Management System, Types of Database Management Systems, Applications of DBMS, Database Administrator, Data warehouse.

Unit 4

DOS (Disk operating system), Command prompt, Microsoft Office, MS word, MS Excel, Basic Functions, Microsoft PowerPoint, Computer Aided Design, Electronic Data processing.

Unit 5

Computer Security & Ethics, Issues and Internet Privacy, Computer Viruses, Spyware and malware, Security solutions, Disaster Recovery.

REFERENCE BOOKS:

- Computer Fundamentals- HK Gundu Rao, N.S Manjunath & M.N Nachappa, Sumukha Publications, Third Edition.
- Computer Fundamentals- Pradeep K. Sinha & Priti Sinha, BPB Publications, 6th edition.
- Fundamentals of Computers- V. Rajaraman, PHI Publications.
- Computer Fundamentals- Anita Goel, Pearson Publications.
- Fundamentals of Computers- E Balagurusamy, McGraw Hill Education, 2009.
- Fundamentals of Computers- Reema Thareja, Oxford Publications.
- Fundamentals of Computers- Vishal Soni, Himalaya Publishing House.

MANAGEMENT OF ORGANISATION

OBJECTIVE:

The objective of this course is to familiarize the students with the basic Management concepts. It deals with the evolution and development of Management thoughts, nature and description of managerial functions.

Unit 1

Introduction

History of management thought, Role of a manager, managerial level and skills, managerial functions- Leadership, Leader vs. Manager, types of leaders, effective leadership

Unit 2

Planning and Management

definition-meaning-importance, types of plans, process of planning, by objectives, process of management, strengths and limitations.

Organization, Control and coordination

Organization structure, different types of structures, design process, Controlling-process, types of control, importance of control in management, Coordination- need for coordination- effective coordination- principles of coordination

Unit 3

Decision making and problem solving

Introduction to problem solving and decision making, types of decision- programmed and nonprogrammed , Decision making stages, making steps, Cognitive and personal Biases, Post decision analysis

Unit 4:

Hours-16

Foundations of Individual Behaviour: Individual behaviour: Foundations of individual behaviour. Ability: Intellectual abilities, Physical ability, the role of disabilities.

Personality: Meaning, formation, determinants, traits of personality, big five and MBTI, personality attributes influencing OB.

Attitude: Formation, components of attitudes, relation between attitude and behaviour.

Perception: Process of perception, factors influencing perception, link between perception and individual decision making.

Emotions: Affect, mood and emotion and their significance, basic emotions, emotional intelligence, self-awareness, self-management, social awareness, relationship management.

Unit 5:

Motivation and Leadership:

Motivation: Meaning, theories of motivation-needs theory, two factor theory, Theory X and Y, application of motivational theories.

Leadership: Meaning, styles of leadership, leadership theories, trait theory, behavioural theories, managerial grid, situational theories-Fiedler's model, SLT, transactional and transformation leadership.

Koontz, Essentials of Management, 8/e, McGraw Hill

1. VSP Rao, *Management: Text and Cases* Excel BOOKS
2. Chuck Williams, *An Innovative approach to teaching and learning Principles of Management*, Cengage Publications, 2010
3. Kiran Nerkar, *Principles and practices of Management*, Vilas Chopde, Dreamtech Press, 2011

4. Stephen P Robbins, Timothy A. Judge, *Organizational behaviour*, Neharika Vohra, 14th Edition, Pearson, 2012.
5. Michael Butler, *Introduction to Organisational Behaviour*, Jaico Publishing House,
6. Ashwathappa, *Organization Behaviour*, Himalaya Publication House

FUNDAMENTALS OF COLOUR THEORY

UNIT I

Colour- Definition, Colour theory- History of colour theory. Fundamentals of colors Meaning of colors, Dimensions of colour (Hue, Value and Intensity), Psychology of colors Characteristics of colors- Spatial effect of colors.

UNIT II

Colour wheel- Primary, Secondary and Tertiary colors. Aspects of colors- Hot, Cold, Warm, Cool, Light, Dark, Pale and Bright. Factors that influence colors- Influence of light on colors- Artificial lighting, Theatrical lighting, Standard lighting- Climatic conditions. Colour temperature- Warm and Cool colors. Additive and subtractive colours.

UNIT III

Colour systems- Prang, Munsell, Itten's theory, Ostwald's theory, CIE system. Colour standards- RGB, CYMK, HSB, PMS, HTML colour systems. Pantone colours.

UNIT IV

Standard colour harmonies- Achromatic, Monochromatic, Analogous, Complementary, Double Complementary, Split Complementary, Triad, Tetrad, Square, Neutral colour harmonies.

UNIT V

Application of colour in Jewellery. Colour in principles of design- Balance through colour, Proportion through colour, Rhythm through colour, Harmony through colour, Emphasis through colour.

REFERENCES

1. David Hornung (2005), *Colour- a workshop for artists and designers*, Laurance King Publishing Ltd., UK, P.21-38.
2. Janet Best(2012), *Colour design- Theories and applications*, Woodhead publishing Ltd., Cambridge.
3. Tracy Diane and Tom Cassidy(2005), *Colour forecasting*, Blackwell publishing Ltd., UK, P.45-82.
4. C.K.Ogden(1929), *Colour and colour theories*, Christine Ladd-Franklin, Oxon, P.114-125.
5. Hideaki Chijiwa(1987), *Colour harmony- A Guide To Creative Colour Combinations*, Rockport Publisher, Massachusetts, P.8-114.

SEMESTER -II

BASIC TECHNIQUES IN JEWELLERY DESIGN (PR)

OBJECTIVES:

The aim of this course is to impart knowledge on alternative materials and the techniques that can be used to create Jewellery.

Unit 1

Introduction

Principles of design for jewellery making – balance – a balancing act – emphasis – point of emphasis – movement – magic of movement – proportion – power of proportion – contrast consideration – unity – harmony – balance – symmetrical , asymmetrical, radial – off balance.

Unit 2

Historical perspective, usage of experimental jewellery, Designers creating experimental jewellery, Researching themes and ideas, Design considerations, techniques

Unit 3

Materials

Plastic and acrylic, glass, fabric, paper, wood, new age/organic materials- resins, unusual metals, fibres, leather etc.

Unit 4

Techniques

Plastic and acrylic- joining mechanisms, colouring, shaping and moulding etc, glass-blowing colouring, design possibilities, Fabric – pleating, stitching, braiding etc, Paper-folding, paper Mache, joining mechanisms, Wood – carving, drilling, shaping etc, other techniques used as per materials

Unit 5

Designing Experimental Jewellery

selecting a theme/ material for experimentation, understanding and exploring possibilities in chosen materials, combining traditional jewellery techniques with experimental material, design developments, exploring end users and sale points, showcasing experimental jewellery.

CLASSIFICATION OF JEWELLERY PRODUCTS

3085

OBJECTIVES:

- This course aims to educate the students on the important categories and sub-types in Jewellery. Students will have an in-depth knowledge of the various product types and their special features.

Unit 1

Rings

Introduction and historical perspective on rings, Classification of rings- Bridal rings- wedding bands, engagement rings, bridal set rings, Solitaire rings, eternity rings, promise rings, Cluster rings, Right Hand rings, Cocktail rings, other fancy rings, Technical considerations while designing rings, Introduction and historical perspective on earrings

Unit 2

Earrings

Classification of Studs & earrings, On the ear -Studs and buttons, Hanging style – Drops, dangles Hoop style- Huggies, Bali's etc., styles – Chandeliers, Shoulder dusters, Design and technical considerations for earrings, Perspective design techniques

Unit 3

Pendants and Necklaces

Introduction and historical perspective on Pendants, Classification of Pendants- Locketts, medallions, tassels, sliders etc, Introduction and historical perspective on Necklaces, Classification of necklaces- by lengths, Types of necklaces- Bib, collarets, Festoon, Riviere, Ynecklace, Asymmetrical, Design and technical considerations for necklaces and pendants

Unit 4

Bangles and Bracelets

Introduction and historical perspective on Bangles and Bracelets, Classification- Bangles, Fixed and elliptical bracelets, Tennis bracelets, link bracelets, Cuff bracelets, charm bracelets, Design and technical considerations for bangles and bracelets

Unit 5

Brooches, tiepins and other product categories

Introduction and historical perspective, Brooches, cufflinks, tiepins, Tiara, head ornaments, nose pins etc, Belt style ornaments, anklets and other foot ornaments

Other product Categories

Mangalsutras, Antique Jewellery to Latest, Detachable jewellery, Watches, Pens, Miscellaneous Jewellery

HUMAN RESOURCE MANAGEMENT

OBJECTIVES:

- To prepare the students to understand the changing environment and its implication for managing the Human Resources to achieve the competitive advantage and corporate excellence.
- To make the students to understand the linkages between corporate vision mission strategies policies and human resources management.
- To help the students to understand the intricacies of Human Resources management and acquire skills in effectively managing human resources in whatever functional areas of management they would be engaged

Unit 1

Human Resource Management

Introduction, meaning, nature, scope of HRM. Importance and Evolution of the concept of HRM. Major functions of HRM, Principles of HRM, Role of HR Manager.

Unit 2

Job Analysis

Meaning, process of Job Analysis, methods of collecting job analysis data, Job Description and Job Specification,

Human Resource Planning

Objectives, Importance and process of Human Resource Planning,

Unit 3:

Recruitment: Definition, Constraints and Challenges, Sources and Methods of Recruitment, **Selection:** Definition and Process of Selection.

Placement: Meaning, Induction/Orientation, Internal Mobility, Transfer, Promotion, Demotion and Employee Separation.

Unit 4

Training and development

Training v/s development, Training v/s Education, Systematic

Approach to Training, Training Methods

Unit 5

Performance Appraisal

Concept of Performance Appraisal, the Performance Appraisal Process, Methods of Performance Appraisal

Employee Welfare: Introduction, Types of Welfare Facilities and Statutory Provisions.

Employee Grievances: Employee Grievance procedure, Grievances Management in India

Trade unions and trade unionism: Theories of trade unions, trade union law, trade unionism in India, issues and problems, employees associations

REFERENCE BOOKS:

1. VSP Rao, Human Resource Management, EB
2. Wayne F Cascio, Managing Human Resources, TMH
3. Fisher, Schoenfeldt and James Shaw, Human Resource Management, Biztantra
4. Raymond, John, Barry and Patrick, Human Resources Management, TMH
5. Robert Mathis and John Jackson, Human Resource Management, Thomson
6. Gary Dessler, Human Resource Management, Pearson
7. Jyothi and Venkatesh, Human Resource Management, Oxford
8. Angelo DeNisi and Ricky Griffin, Human resource Management, Biztantra
9. Wayne Mondy and Robert Noe, Human Resource Management, Pearson

NME - GEM AND GEM STONES

UNIT –I

Introduction to Gem stone and their Influence -Terminology- Origin- Structure- Classification.

UNIT –II

Properties of Gem stone – Hardness, Cleavage and Fracture, Density – Cutting and Polishing of Gems.

UNIT –III

Optical Properties – Color, Color of Streak, Changes in Color, Refraction of Light, Double Refraction, Transparency, Luster, Light and Color Effects, Luminescence

UNIT –IV

Organic Gemstones – Diamonds, Opals, Pearls, Amber, Coral.

UNIT – V

Synthetic Gemstone – Synthetic Corundum, Ruby, Sapphire, Emerald, Quartzes, Synthetic Spinel, Synthetic Opal, Synthetic Alexandrite

REFERENCES:

1. Gemstones of the World, Waltre Schumann, Sterling Publishing Company, Inc., 2009
2. Gemstones: Properties, Identification and Use, Arthur Thomas, New Holland Publishers, 2008
3. Gemstones (Collins Gem), Cally Oldershaw, HarperCollins UK, 2013
4. Gems and Gemstones: Timeless Natural Beauty of the Mineral World, Lance Grande, Allison Augustyn, University of Chicago Press, 2009

METALLURGY

OBJECTIVES:

This course instructs the students on the types of metals, their occurrence and the production techniques involved with respect to Jewellery.

Unit 1

Introduction to Metallurgy

Introduction to the field of metallurgy, History of metallurgy- discovery, ancient uses, developments through various ages, Microscopic structure, Composition and properties of metals, Equipments and tests used in metallurgy, Occurrence of metals, its Classification – ferrous/non ferrous, noble, base, light, Definition of alloys, reasons for alloying

Unit 2

Precious Metals and Their Properties

Introduction to metals used in jewellery- precious metals, Gold- properties of gold, occurrence, extraction methods, recovery and refining process, Alloys of gold, gold testing methods, Silver- properties of silver, occurrence and extraction of silver, alloys of silver, silver testing methods

Unit 3

Other Metals

Platinum group- Properties of Platinum, occurrence and extraction of Platinum, alloys of platinum, platinum working methods, Other metals used in jewellery- copper, brass, aluminium etc, their properties, Metals used in jewellery tools and industries

Unit 4

Production processes used for metals

Melting, alloying, casting, working and annealing, Joining techniques, electroplating and allied, Powder metallurgy in jewellery manufacture

Unit 5

Assaying and Hallmarking Metals

introduction and importance of metallurgical assaying, The touchstone, X-ray fluorescence, assay/Cupellation, introduction to hallmarking, marks and symbols, and international hallmarking standards

Reference Books:

1. A Contemporary guide to traditional Jewellery techniques – Allen Revere
2. Art of jewellery making; classic and original designs - Allen Revere
3. The procedure and techniques of diamond setting Manual – Robert R Wooding

SEMESTER III

PART I TAMIL II

As per University Syllabus

PART II ENGLISH II

As per University Syllabus

GOLD SMITHING - I

Objectives:

Skills combined to make fascinating Jewellery, Chinese knots design making, fine Jewellery design (drawing) Bench work (metal work) Jewell Design & Making, Enameling Design & making, Bead Jewellery design & Making.

Unit I :

Gold smithing - Gold smithing Vs. silver smithing-Metalsmithing- Meaning Contemporary gold smithing – Unique properties of gold – Main techniques used-by Gold smithing- Traditional fine art skills

Unit II : Beading Beading Process- Bead work tools- pliers, cutters,- memory wire cutter, etc., definition of bead Types of- beads- Bugle, chatons, crystal, Delica, Donuts, Faceted,- Flatbacks, Gem beads (semi-precious) Hex cut, lampwork,- pearl, Rondelles, Rocaille beads, seed bead, shamballa- style other bead types – crow liquid- pony, tree cuts-;- History of beads

Unit III : Threading Knots- overhand knot slipknot, forward knot,- Backward knot, Threading techniques- Cham shell calotte technique,- cone technique, crimping technique with crimping pliers;- fold over crimp; split rings- How to use a split ring tool - How to use wire cutters, simple loop technique wire wrapped loop technique.

Unit IV :- Wire Jewellery Techniques Making jewellery with jewellery wire and beads using wig-jig tools- setting gemstones, wire wrapping making necklaces and bracelets- by stringing beads, use of stretch magic elastic thread- use of twist ‘n’- curt tool, making necklaces using spool knitter, making bracelets or- Necklaces by braiding wire- Bead stringing- Various Knots- Stretch magic projects (Wire jewellery)-Making a simple-& complex wire bead Use of memory wire.

Unit V:

Choosing of design brooch, ring, earrings, hairpin, pendant, silver beads etc. How to use various silver clay products, how to use brush. Natural form Jewellery (leaf) PCM3- what is PMC3/ Silver Art clay – precious metal clay – ingredients – water an organic binder, pure metal particles of silver or gold, fire, Role, model, pierce, stamp engrave, cut, tear, assembled, texture & fire – Reuse of metal, leftovers, filings etc. – soldering.

Practical

Practice on Basic Goldsmithing and Jewellery making skills –

a. Filling b. Cutting c. Drilling d. Soldering e. Alloying f. Forging g. Wire drawing h. Sheet Rolling i. Red Rolling j. Extruding k. Forging l. Blanking m. Stamping n. Striking o. Spinning p. Chain making q. Bending r. Raising s. Embossing machining t. Practice on Joining by using 1. Blow pipe techniques 3. Soldering 3. Preparation of solder

Books Recommended

1. The jewelers Directory of shape and form (Jewellery) Elizabeth olver
2. Hot & Cold connections for jewelers – Tim McCreight
3. The Jeweller's directory of Decorative finishes- Jinks McCrath
4. The design & creation of Jewellery (Jewellery Crafts)- Robert Von Nenmanu
5. Jewellery concepts & Technology_Oppi Untracts
6. Theory & practice of Gold smithing – charles lewton Brain
7. Jewellery Technology Processes of Production. Methods, tools, instruments- PintonD
8. Jewellery manufacturing Encyclopedia – Book -1

HISTORY OF JEWELLERY DESIGN

Objectives:

To understand the role of history in modern jewellery designs.

- To understand the different cultures around the globe and their impact on design development
- To understand the role of jewellery in human life other than body adornment.

Unit I:

Origin of jewellery design Jewellery from the dawn of man- Early jewellery function and design- Materials and methods used by early man- Origin of metals- Impact on society

Unit II : History of Indian Jewellery Design Indus valley civilization jewellery- Vedic period jewellery- Mouryan period-Sangha period- Gupta period- Mughal period- Rajput period-Impact of British rule on jewellery

Unit III : Indian traditional jewellery Bridal jewellery : Mangtika, necklace, earrings, noserings, bangles, armlets, rings waist-band, anklets and toe rings Kundan jewellery- Lac jewellery- Meenakari- Navratna jewellery- Bead jewellery- Filigree jewellery- Jadau jewellery- Pachchikam jewellery- Temple jewellery- Tribal jewellery

Unit IV :

History of gemstones Origin of gemstones- History and significance of 9 precious stones in India (Navratna) Some famous historical gemstones- Hope diamond, Kohinoor, The Black princes Ruby, Star of India, Pearl of Lao Tzu,- Andamooka opal, Medusa Emerald.

Unit V:

Influence of jewel making from other parts of the world - early century jewels – role of jewels in Indian historical rule -

References : Books

- 1) History of jewellery – Black
- 2) The master jewelers – Kenneth Snowman

ADVANCED TECHNICAL DESIGN (PLAIN METAL)**OBJECTIVES:**

This course will inform the students on the advanced techniques involved in designing jewellery. This includes the technical aspects like components and surface textures. Students will also be able to produce thematic design collections at the end of this course.

Unit 1**Jewellery Components**

Introduction and usage of jewellery components- Types of jewellery findings and components, Links- types of links, usage of links, Catches- types of catches, bar catch, ‘S’ catch, pin catch, box clasp etc, Hinges – types of hinges, pin hinge, dovetail hinge etc, Findings – earring findings (posts, screw back, ear clips etc), pendants (bails, loops), brooch (pin stems), jewellery components-Rivets, chain ends, beads, jump rings etc

Unit 2**Theme based Jewellery Design**

Introduction to themes, Categories of themes – natural, historic, architectural, symbolic, emotional, etc, Researching and documenting a theme, exploring various aspects of the theme, Understanding the importance of mood boards, creating mood boards, Creating inspiration boards based on the selected theme, layouts and presentation of mood boards, Deriving inspiration for designs, brainstorming methods, thinking laterally, Design developments – possibilities

Unit 3**Techniques-1**

Introduction and historical perspective, Rolling mill techniques, Acid Etching and Patinas- techniques and materials used, types of patinas - materials used, process, applications, Filigree , Piercing, Granulation & Doming

Unit 4

Techniques-2

Types, materials and techniques, Reticulation, Repouse & chasing, Chisseling /Engraving, Stamping/punching, Mokume-gane- techniques and materials used

Unit 5

Textures, Finishes

Introduction to different textures and finishes, Sand Blast, Glossy finish (10Kt,14Kt,18Kt,22kt),

Brush finish, Antique gold & Silver finish, other modified textures and finishes

Enamelling & Inlay

Introduction and historical perspective, types of enamelling- champlevé, Basse-taille, cloisonné , plique-a-jour, other varieties of enamelling- grisaille, Limoges, etc.

REFERENCE BOOKS:

1. Design of Steel Structures by Negi
2. Design Of Steel Structures by I C Syal
3. Design of Steel Structures by Dayaratnam P
4. Limit State Design of Steel Structures by S K Duggal

DIAMONDS - I

OBJECTIVES:

The objective of this course is to train the students in the origins, processes and properties of Diamonds.

Unit 1

Introduction

Overview and historical perspective, Diamond crystallography, formation of diamonds, types of deposits, Diamond Sources worldwide, Mining Companies and Diamond Mining Companies and Diamond Mining Origin, Extracting of Diamonds from rough Crystallography, Diamond as light

Unit 2

Colour

Introduction and Overview, History of colour grading, Equipments used for colour grading, Colour grading Classification as per international system, Procedure for colour grading theory, diamond and fluorescence

Clarity

Introduction and overview, Historical perspective, Clarity grading Classification as per international system, Inclusion & Blemishes, Five factors of clarity grading, Clarity Treatments

Unit 3

Cut and Carat

Introduction to Cut and finish Grading, Types of cuts, Theory on cutting diamonds, Proportions grading, Polish and symmetry grading, Sewing and Gauging Carat weight estimation, Overview of Mounted jewellery

Unit 4

Synthetic Diamonds and treatments

Synthetic Diamonds process (CVD and HPHT) , Identification of diamonds from different synthetic and imitation diamonds , Color treatments & their identification, Clarity treatments & their identification, Diamond manufacturing: Designing the rough to polishing the diamond, Pricing: For polished and rough diamonds

Unit 5

DIAMOND PIPELINE

Rough diamond market- Sizing and Shape, DTC – History and importance, Conflict diamond,

Kimberly process, Sorting for quality and color, The polished diamond market

REFERENCE BOOKS:

1. The Diamond Handbook, 2nd edition-Renee Newman
2. Diamond Compendium Book by DeeDee Cunningham
3. Diamond Design Book by Marcel Tolkowsky
4. The "Diamond Math" Book - 2nd Edition-Kenneth A. Glasser,DRE
5. The Properties and Application of Diamond – Eileen Wilks, John Wilks

DIAMONDS – II

OBJECTIVES:

The objective of this course is to train the students in the origins, processes and properties of Diamonds.

Unit 1

Identification of diamonds

Understanding the 4 'c' of diamond grading, Use of 10 x loupe, Use of microscope, Use of other equipments for diamond grading – Ultraviolet lamp, Sorting tray, Balance scale etc.
Unit 5: International grading scales like HRD, IGI etc.

Unit 2

Clarity grading

Introduction to clarity grading, Use of 10 x Loupe in clarity grading, Types of inclusions, Use of microscope for clarity grading, Clarity Grading according to the GIA System, Assess clarity grade using other international grading systems

Unit 3

Color grading

Introduction to color grading, Use of folded white card and Grading lamp, Color comparison master stones, Assess color grade using the GIA system, Assess color grade using other international grading systems

Unit 4

Cut grading and carat weight

Introduction to cut grading and carat weight, Visual estimation of clarity grading, Use microscope for cut grading, Assess cut grade using the GIA system, Assess cut grade using other international grading systems

Grading Chart

Grading with the GIA system chart, Grading with 10x loupe, Grading using microscope, Grading of 10 diamonds with the GIA system chart, Grading of 10 diamonds with other international standards like IGI, HRD etc

Unit 5

Differentiating between diamonds and simulants

Types of stimulants, Differentiating between diamonds and simulants by using of 10 x loupe, Differentiating between diamonds and simulants by using Microscope, Differentiating using diamond testers, SG, Ultraviolet rays etc, Practically differentiating 10 diamond simulants

Rough diamonds and treatments

Observation: Use of 10 x loupe, Observation: using microscope, Crystal faces, cleavage and forms and twinning, Inclusions – identification of different types of inclusions in rough diamonds, General description of quality, transparency and color

REFERENCE BOOKS:

1. The Diamond Handbook, 2nd edition-Renee Newman
2. Diamond Compendium Book by DeeDee Cunningham
3. Diamond Design Book by Marcel Tolkowsky
4. The "Diamond Math" Book - 2nd Edition-Kenneth A. Glasser,DRE
5. The Properties and Application of Diamond – Eileen Wilks, John Wilks

COREL DRAW

(CORAL DRAW)-I

Objectives:

Create design awareness of different styles of jewellery

- Develop skills to communicate design intention
- Create digital jewellery models.
- Introduction of powerful features of corel draw and their use for converting designer's
- original idea and inspiration into a successful jewellery design. To make students aware about the creative aspect of making bangles, rings, jewellery
- sets and professional artwork.

Unit I

Introduction How to Start the CorelDraw program- Introduction to the CorelDraw program, Menu bar- & Drawing Toolbox How to make heart and heartleaf-How to make different shapes of gemstones- Round, oval, bugget, triangle, heart, pear, marquees etc

Unit II

Rendering jewellery Use of colour, fill and outline tools- How to fill metallic effects : Gold, silver, platinum, copper- How to fill gemstones- How to give textured effects: Sand finish, matte finish, silk finish etc.-How to give pearl effect-How to give kundan effect

Unit III

stone settings Prong settings- Prong Pave- Pave settings- Channel settings Flush settings- Invisible settings- Pressure settings- Bezel-Bezel settings.

Unit IV

Creating jewellery with measurements -Creating diamonds and stones with measurements- Creating rings and bangles of different sizes- Creating pendants- Creating necklaces :

Chokers, small, long, single stranded, multiple stranded- Practical Create different designs of pendants, rings bangles and necklaces using coral draw- toolbox Give special effects to the jewellery design- Saving files in jpg format.

Introduction to CDR

Saving in different formats, exporting and importing files and opening files, Creating basis

shapes, Filling with colour, changing outline properties, colour palette, Drawing with line tools, brush styles, Shaping and re-shaping.

Unit 2

Changing fill properties – Texture, pattern, fountain fill, Picking, moving and deletion of objects, Resizing, rotating, transforming objects, Cropping, slicing, erasing, Smudging, roughening objects, Grouping, arranging objects, using guidelines.

Unit 3

Duplicating, copying objects, mirroring, Table and graph paper, Trimming objects, Special fill tools – smart fill, interactive fill tool, interactive mesh tool/drawing tools, Connector tools, linking objects, Using symbols & clip art.

Introduction to CDR

Saving in different formats, exporting and importing files and opening files, Creating basis shapes, Filling with colour, changing outline properties, colour palette, Drawing with line tools, brush styles, Shaping and re-shaping.

Unit 2

Changing fill properties – Texture, pattern, fountain fill, Picking, moving and deletion of objects, Resizing, rotating, transforming objects, Cropping, slicing, erasing, Smudging, roughening objects, Grouping, arranging objects, using guidelines.

Unit 3

Duplicating, copying objects, mirroring, Table and graph paper, Trimming objects, Special fill tools – smart fill, interactive fill tool, interactive mesh tool/drawing tools, Connector tools, linking objects, Using symbols & clip art.

Unit V

Duplicating, copying objects, mirroring, Table and graph paper, Trimming objects, Special fill tools – smart fill, interactive fill tool, interactive mesh tool/drawing tools, Connector tools, linking objects, Using symbols & clip art. Blending objects, contouring, Distorting objects, Perspective effects / shadow effects, Transparency effect, Tent properties, enveloping tent, Using symbols & clip art, Zooming / viewing, showing printable area.

References :

<http://online-jewellery-designing-training.blogspot.in/>

rhino3dcadjewelrydesignclasses.doattend.com

dsiicd.org/nij/jewellerydesigning

www.gia.edu/gem-education/program-jewelry-design-cad-cam www.iigj.org/

SEMESTER IV

GEMMOLOGY – I

OBJECTIVES:

- To introduce the students to the world of gemstones, their properties and their sources. Students will be able to identify and differentiate between the various categories of gemstones.

Unit 1

Introduction

Overview of gemstones, History of gems, Learning the general observations of gemstones - Color, Luster, Phenomena, Fracture, Habit etc, Formation of gemstones- Different types of rocks, Pegmatite rocks, subduction, Mining: Different mining operations of gemstones- open pit mining- alluvial mining-Underground Mining, Carat: Carat meaning, history. Different units of conversation of carat to points, cents, grams and milligrams.

Unit 2

Instruments used in gemmology and its applications

Loupe and Refractrometer- Applications and uses, Polariscope and Dichroscope - Applications and uses, Microscope and Spectroscope - Applications and uses, Chelsea filter, Tripod, Calipers & Leveridge Gauges - Applications and uses, Grading gemstones according to GIA standards, Grading gemstones according to other international standards.

UNIT 3

Properties of gemstones

Study of Physics for gemstone: Introduction to light, Types of light used in gemology lab: Reflection, Refraction, Color : Hue , tone , Saturation, Physical & Optical properties:Hardness: ScratchHardness,Moh's Hardness Sale, Density: Determination of density by different methods: 1 Hydrostatic Balance 2.Suspension Method 3. Weights used in the Gem trade, Optical properties using instruments: Determination of Refractive Index using Refractometer, polariscopic: Single reflection, Double reflection, Optical properties with light:Double Refraction,Dispersion, Absorption Spectra,Transparency, Luster, Pleochroism,And Luminescence, Study of inclusions :Natural inclusion :Needles, clouds, fluids, and crystals Man made inclusion , Inclusion by treatments : Fissures, cleavages, fractures.

Unit 4

Gemstones Varieties, Properties, sources and identification

Ruby: Sapphire: Emerald, Quartz and chalcedony, Opal: Tourmaline: Peridot, Topaz: Beryl: Chrysoberyl, Tanzanite: iolite: andalusite: Zircon: Garnet, Lapis lazuli: Turquoise: Spinel: Feldspar: Etc

Treatments and Synthetic processes used in gemstones and identification

Introduction to treatments: Heat treatment, Lattice and beryllium diffusion, Smoke and sugar treatment, Ceramic process, Coating, Doublet, Fracture filling. Wax impregnation, Oiling, Quench Cracking etc, Introduction to Synthetic gemstones: Flame Fusion, Skull Method, Hydrothermal Process, The process method

UNIT 5

Organic gems and identification

Pearl – Properties and identification, Natural & cultured Pearls- Properties and identification, Jet- Properties and identification, Ivory - Properties and identification, Coral - Properties and identification, Amber- Properties and identification

REFERENCES

GIA.edu, Gemmology- by Peter Read

GEMMOLOGY – II

Unit 1

Introduction to Gemstone identification

Observation using loupe, Observation using Microscope, Evaluating the cut

Gemstone Chart

Grading with Loupe, Grading with microscope, Evaluating color, hue, tone and saturating, Grading set stones

Unit 2

Clarity identification:

Types of inclusions, How to differentiate different types of inclusions, Grading clarity according to GIA system, Grading clarity according to International systems like HRD and IGI

Unit 3

Gemstone identification:

Ruby: Sapphire: Emerald, Quartz and chalcedony, Opal: Tourmaline: Peridot, Topaz: Beryl: Chrysoberyl, Tanzanite: iolite: andalusite: Zircon: Garnet, Lapis lazuli: Turquoise: Spinel: Feldspar: Etc

Unit 4

Gemstone identification : Organic gemstones

Pearl – Properties and identification, Natural & cultured- Properties and identification, Jet- Properties and identification, Ivory - Properties and identification, Coral - Properties and identification, Amber- Properties and identification

Unit 5

Gemstone treatment identification

Heat treatment, Lattice and beryllium diffusion, Smoke and sugar treatment, Ceramic process etc, Coating, Doublet, Fracture filling, Wax impregnation, Oiling, Quench Cracking etc

References: GIA.edu, Gemmology- by Peter Read

Basic Jewelry Design

Objective:

This course is designed to introduce the student to jewelry design as an art form. We will explore various materials and techniques while working on the fundamentals of design. Class goals include acquainting the student with the elements of design, beginning techniques of working with a variety of materials, while developing the ability to execute simple designs of their own creation.

Unit 1 - Design - Elements of design. Project - design

Unit 2 – Chain making - Various forms of linkage, use of tools, decorative links, Project - chain

Unit 3 – Sawing and drilling metals - Look at the work of Alexander Calder – use of jeweler’s saws, use of drill presses, use of files, Project – sawn in metals

Unit 4 – Soldering - Use of torches – safety rules, Project – solder samples, 1 quiz

Unit 5 – Final design - Using design elements, design and plan a piece of jewelry. Make it.

Project – final piece, including design work, step by step process, making the piece, and a self-evaluation

Reference Books:

1. Jewellery Design : the Artisan’s reference (Jewellery crafts) – Elizabeth Oliver
2. The art of Jewellery design – Elizabeth Oliver
3. Jewellery making and design – Augustus F Rose and Antonio Cirino

ADVANCED TECHNICAL DESIGN (STUDED)

OBJECTIVES:

This course will inform the students on the advanced techniques involved in designing Studded jewellery. This includes the technical aspects like components and stone settings. Students will also be able to produce thematic design collections at the end of this course.

Unit 1

Stone Settings

Pa’ve setting, prong setting, channel setting, bezel setting, invisible setting, cluster and other fancy settings

Unit 2

Rendering

Stone Rendering, different shaped gems, Rendering color gem stones Rendering diamonds, Rendering translucent gems, Rendering opaque gems, Rendering Semi precious stones

Unit 3

Findings-studded Jewellery

Studded findings and its uses, Solitaire Pendant baskets, Solitaire Ring baskets, Ring shanks, Bbands, Bangles

Unit 4

Theme based Jewellery Design

Introduction to themes, Categories of themes – natural, historic, architectural, symbolic, emotional, etc, Researching and documenting a theme, exploring various aspects of the theme, , Understanding the importance of mood boards, creating mood boards, Creating inspiration boards based on the selected theme, layouts and presentation of mood boards, Deriving inspiration for designs, brainstorming methods, thinking laterally

Unit 5

Design Methodology

Form Generation, Form Manipulation, Mirroring and Sizing, Detailing, Rendering, Final presentation and submission ideas.

Reference Books:

1. Structural Drafting and Design of Details – Carlton Thomas Bishop
2. Handbook of structural connection design and details – III Edition - Carlton Thomas Bishop
3. Structural details: or elements of design in heavy framing – Hendry Silverster

JEWELLERY ENTREPRENEURSHIP

OBJECTIVE

The objective of this course is to impart the knowledge required to setup an entrepreneurship enterprise. Students will learn about the advantages and the methods for being a successful entrepreneur.

UNIT-I

Entrepreneurship and entrepreneur – Define and Concepts, Essential features of entrepreneurship, Characteristic of entrepreneur, Functions of entrepreneur, Role of creativity and innovation in entrepreneurship, Evolution of entrepreneurship.

UNIT-II

Steps for starting a small scale enterprise -Steps to be taken. Preparation of Project report - Guidelines. Procedure and formalities for registration. Types of organization -Sole proprietorship. Partnership. Joint stock company. Factors influencing the choice of organization

UNIT-III

Promotion of a venture – Opportunities analysis, SWOT analysis, Internal and External analysis, Technological competitiveness, setting up new unit-Legal requirements

UNIT-IV

Marketing in an entrepreneurial context – Marketing, Steps in marketing process, Product based ventures -5 points, Service based ventures – 8 points, Five forces in the entrepreneurial marketing environment, Environmental scanning

UNIT-V

Marketing analysis- Understanding customers, Advertising & Media planning, Fashion shows & other events.

REFERENCES:

1. Fundamentals of Entrepreneurship, H.Nandan, PHI Learning Pvt.Ltd., 2013
2. Marketing for Entrepreneurs: Concepts and Applications for New Ventures, Frederick G. Crane , SAGE Publications , 2012
3. Entrepreneurship development - C.B. Gupta & N.P. Srinivasan

MANUFACTURING TOOLS AND TECHNIQUES - I

OBJECTIVE:

- The objective of the course is to train the students in the important manufacturing techniques both in handcrafted and mass manufacturing methods of producing jewellery. Students will learn to work with metal and set stones by various methods.

Unit 1

Handmade Jewellery

Introduction and historical perspective, methods of melting metal and alloying, metal shaping techniques- cutting, rolling, drawing, etc., filing and grinding, piercing and sawing, annealing and pickling, joining techniques, finishing and polishing

Unit 2

Casting Technology

Introduction and historical perspective, types of casting process, wax modelling techniques, investment casting techniques, centrifugal casting, end finishing and polishing techniques

Unit 3

Stamping and electroforming

Introduction to stamping, tools and materials used in stamping, creative application of stamping for designing, introduction to electroforming, materials and tools used, design applications of electroforming

Unit 4

Stone setting

Introduction to stone setting, stone setting tools and materials, Closed settings (bezel, gypsy, tube etc.), open settings- prong, bead, carre, etc, group settings- cluster, channel, pave etc, special setting techniques- tension, invisible, pressure etc.

Unit V5

Enameling

Introduction to Enameling, Types of enameling, Process of empanelling, Uses of enameling

Wax Modeling

Introduction to Wax modeling, Understanding and taking a master, types and shapes, Repairs of waxes, Pre setting, Designing and tree making

REFERENCE BOOKS:

1. Basic wire wrapping and techniques and jewellery tutorial – Arla Defield – Kindle Edition
2. DIY jewellery making magazines by Jane Chew – Kindle Edition
3. Handmade jewellery using rhinestone chine - Arla Defield – Kindle Edition

SEMESTER V

ADVANCED TREND DESIGN AND PORTFOLIO

OBJECTIVES

- This course aims to practically educate the students on the important categories and subtypes in Jewellery. Students will have an in-depth knowledge of the various product types and their special features.

Introduction and historical perspective on rings, Classification of rings- Bridal rings- wedding bands, engagement rings, bridal set rings, Solitaire rings, eternity rings, promise rings, Cluster rings, Right Hand rings, Cocktail rings, other fancy rings, Technical considerations while designing rings, Introduction and historical perspective on earrings

Unit 2

Earrings

Classification of Studs & earrings, on the ear -Studs and buttons, hanging style – Drops, dangles Hoop style- Huggies, Bali's etc., fancy styles – Chandeliers, Shoulder dusters, Design and technical considerations for earrings, Perspective design techniques

Unit 3

Pendants and Necklaces

Introduction and historical perspective on Pendants, Classification of Pendants- Locketts, medallions, tassels, sliders etc., Introduction and historical perspective on Necklaces, Classification of necklaces- by lengths, Types of necklaces- Bib, collarets, Festoon, Riviere, Ynecklace, Asymmetrical, Design and technical considerations for necklaces and pendants

Unit 4

Bangles and Bracelets

Introduction and historical perspective on Bangles and Bracelets, Classification- Bangles, Fixed and elliptical bracelets, Tennis bracelets, link bracelets, Cuff bracelets, charm bracelets, Design and technical considerations for bangles and bracelets

Unit 5

Brooches, tiepins and other product categories

Introduction and historical perspective, Brooches, cufflinks, tiepins, Tiara, head ornaments, nose pins etc., Belt style ornaments, anklets and other foot ornaments

Other product Categories

Mangalsutras, Antique Jewellery to Latest, Detachable jewellery, Watches, Pens, Miscellaneous Jewellery

Reference Books:

Jewellery of India- Chaturvedi

1. Jewellery and personal adornment – Kamala Dong
2. Traditional Jewellery – Oppi Untracht

COMPUTER AIDED JEWELLERY DESIGNING (RHINO)

OBJECTIVES

- This course will train the students in all the tools and techniques of jewellery specific software to enable them to design jewellery with the aid of the computer.

Unit 1

Rhino Basics

The rhino for windows interface- Menus, Toolbars, Graphic area, Command area, the mouse, navigating around the model, panning and zooming, changing the view, moving objects, copying objects, entering commands and viewing command history

Unit 2

Creating 2 dimensional shapes

Points, lines, curves, Creating arcs, shapes- circles, ellipses, polygons, curve tools

Unit 3

Creating 3 dimensional shapes and stone settings

creating surfaces from curves, manipulating surfaces, surface tools, creating solids, solid tools- creating holes, manipulating solids, Prong setting, Bezel setting

Unit 4

Rings and bangles

Making of shank, Setting stone on the shank, Making of bangles, Stone setting on bangles, Types of finishes, Presentation of rings and bangles

Unit 5

Pendants and necklaces

Making of pendants, Making of pendants with stone setting, Making of necklaces, Making of necklaces with stone setting, Different clasps and locks, Final presentation of pendant and necklace

Rendering and Printing

Types of rendering software and usage, material possibilities- yellow gold, white gold, textures etc., lighting and backgrounds, saving, importing, exporting, bitmaps etc., introduction to CAM and printing possibilities, Final presentation of 5 jewellery products

Reference Books:

1. Sotheby fine jewellery – C A Publications.
2. Jewellery making basics – C A Publications.
3. Woman Jeweleery Design .

LUXURY & RETAIL JEWELLERY SEGMENTS

OBJECTIVES:

- The objective of this course is to introduce students to the various segments in Jewellery. Students will be able to design luxury and retail Jewellery and also understand the distinctive qualities of Men's & Kid's Jewellery.

Unit 1 Luxury jewellery segment

Introduction to luxury jewellery segments, Fine jewellery- historical references, types of materials used, renowned fine jewellery designers, design considerations for fine jewellery, Couture Jewellery- introduction to couture jewellery, Design considerations for couture jewellery

Unit 2 Film & Theatre Jewellery

Introduction to film & theatre jewellery, Research- themes, characters, period etc., Material considerations, Creating designs for a film production, Creating designs for a Theatre production, Study of renowned film and theatre jewellery

Unit 3 Retail Jewellery

Introduction to retail jewellery, Brands- definition, types of brands, brand positioning etc, Market study and research considerations, Materials, design considerations, forecasting, pricing and positioning, Developing a collection/ range for a selected brand

Unit 4

Men & Kid's jewellery

Introduction to men's jewellery, Types of jewellery available for men, Design considerations, materials, price points etc, Introduction to Kid's jewellery, Types of jewellery available for Kid's, Design considerations, materials, price points etc.

Unit 5

Antique Jewellery

History and origin of jewellery - styles of antique jewellery – types of antique jewellery – various designs – cross cultural influence – temple jewellery – metals and stones used in antique jewellery.

Reference Books:

1. Luxury Retail Management – Micheal Chevalier
2. Luxury Brand Mangement - Micheal Chevalier
3. The Ultimate luxury brand Mangement – Mitchell Wakefield.

GEM AND JEWELLERY EXPORTS

OBJECTIVES

- This course is an introduction to the various formalities, acts involved in the export sector and the function of the export promotion council.

Unit 1

Introduction

Introduction and overview, Exim policy, customs act, other acts relating to export/import, formalities for commencing, customs formalities

Unit 2

Exports

Introduction and overview, export documentation, project exports, export of services - export of excisable goods, 100% export oriented units, export processing zones - special economic zones, duty drawback procedure - export/import by post customs house agents

Unit 3

Imports

Introduction, import documentation, clearance of import goods, import of different products, Import incentives, import licences etc.

Unit 4

Gem and Jewellery export market

Introduction - Scope of study - Statistics of Gem & Jewellery export, Markets - Global Competition, Export Promotion schemes, product development, Technical aspects of gold jewellery, Role of export Promotion Council

Unit 5

Indian and International Market:

Major features of jewellery of major International markets – USA – Japan – Dubai – Italy – Germany – France – features of jewellery in Indian markets.

Reference Books:

1. A Golden Treasury: Jewellery from the Indian subcontinent – Susane Strange
2. Hand craft Indian Enamel Jewellery – Rita Devi Sharma
3. Traditional Jewellery of India – Agasthus F Rose

MANUFACTURING TOOLS AND TECHNIQUES - II

OBJECTIVE:

The objective of the course is to train the students in the important manufacturing techniques both in handcrafted and mass manufacturing methods of producing jewellery. Students will learn to work with metal and set stones by various methods.

Unit 1

Introduction to Manufacturing

Tools and equipments and it's uses, Soldering and heating, Gas supply and emergency shut off, Safety precautions, Safety precautions

Unit 2

Basic techniques

Cutting of metals, Drilling, Filing, Heating, Soldering

Unit 3

Technical exercises and earring making

Wire work and chain making, Use of different shapes in draw plate, Drawing readymade chain, Use of rolling mill, Simple domed earrings, Earrings using other techniques

Unit 4

Stone setting and ring making

Introduction to stone setting, Simple bezel collet making, Polishing and finishing, Stamping and pressing, Simple prong making, Making of rings set with stone

Unit 5

Polishing and finishing

Uses of files for finishing, Polishing materials like leather, cloth etc., Polishing compounds (liquid and solid), Emery paper grades and uses, Cleaning methods like steam cleaning, Other hand finishes (scratch, brush)

WAX MODELING

Introduction to Wax modeling, Understanding and taking a master, types and shapes, Carving various 3d forms, Sprue placement, Designing and tree making, Casting

Reference Books:

1. Basic wire wrapping and techniques and jewellery tutorial – Arla Defield – Kindle Edition
2. DIY jewellery making magazines by Jane Chew – Kindle Edition
3. Handmade jewellery using rhinestone chine - Arla Defield – Kindle Edition

INSTRUMENTAL STUDIES

OBJECTIVES:

Unit 1

Introduction

Significance and method of measurement, Direct and indirect method of measurement configuration of measuring instruments and measurement system., Definition and type of transducers, Definition of the term –dispersion, monochromaticity, refraction, refractive index, total internal refraction, optical activity.

Unit 2

Linear Measurement

Measurement of weight, temperature measurement, time speed measurement, Concept of different physical properties of density, hardness and tensile strength, Atomic structure of metal, basic structure materials-atoms-composition of atoms.(only gold,silver,platinum, copper), Element in periodic table, table-electronic configuration of different metal.

Unit 3

Classifications of Instruments

Usages of loop, Principle of operation of simple and compound microscope, XRF(X-Ray fluorescence) principle, Karat meter.

Unit 4

Gold and silver purity measurement by touch stone method, Density method – composition of karat age of metals, Gravimetric analysis (procedure-significance-numerical) Determination of unknown metal composition, Method of precipitation.

Unit 5

Photometry (construction and working), Pleochroism and Dichroism (optical properties), Principle of mass spectrometer, Introduction to hallmarking.

Construction and usage

Dichroscope (testing for single and double refraction, reflectivity and reflect meters, Polariscopes (construction and working), Introduction to UV Lamp, Chelsea filter, diamond tester, Hardness definition on Mohrs scale, Brinell, Test Rock, Test Micro hardness.

Reference Books

- A course in electrical and electronics measurement and instrumentation by A.K Swahney.
- Gemology by Peter Read, third edition.

MARKETING, BRANDING AND MANAGEMENT

OBJECTIVES:

- The objective of this course is to introduce students to the various types of marketing and branding, and gives an overview of the Luxury retail Market. This course is to understand the retail scenario with respect to Jeweler. It will also impart knowledge on the functioning of stores, brand positioning and management.

Unit 1

Introduction to branding – history of branding – branding terminologies – branding orientation - justification – approaches – brand strategies – brand heritage

Unit 2

Introduction

Introduction to retailing, types of retail markets – domestic, International, retail environment and retail mix strategies, Retail Marketing Management, Human Resource Management, Retail Information Technology Management, **Store Layout:** store window display, exterior of store, illumination, Visual merchandising, fixture and dressings, purchase display systems, store interiors and display locations

Unit 3

Merchandise planning

Types of stores and planning, layout and storing, Assortment management, seasonal planning, buying, maintain customer relationships

Unit 4

Brand building

Importance of brand, creation of brands, market research, importance of advertising and customer loyalty, franchising, business ethics, **Brand Management,** Evaluation of Brands, brands and their relationship with consumers, Brand equity

Unit 5

Evaluation of brand awareness and brand association for existing brands, opportunity evaluation for new brand - Brand positioning and values – targeting - Brand elements

- Marketing programs and communications - Brand portfolio analysis if existing brand or potential brand extensions if new brand.

Referance Books:

1. Jewellery Business Plan – Jimmy Choo
2. The Brand Marketing Book : Creating , Managing and extending the value – Joe Morconi
3. Designing Brand Identity – Elena Bheler

SEMESTER VI

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INTERNSHIP

The objective of the internship is to enable students to gain knowledge on functioning of jewellery enterprise through on the job training.

Students will be sent to various reputed jewellery organizations individually or in groups to carry out project work under the supervision of a factory guide on a specific topic related to jewellery design and management. The progress on the project will also be continuously monitored by a faculty guide.

The report will be submitted to the principal and also evaluated by internal and external examiners detailed by the university

DESIGN PORTFOLIO

The objective of this unit is to enable the students to prepare a professional design portfolio to showcase their best work. It will educate the students on the importance of portfolios, their various types and layouts. The portfolio will include a comprehensive compilation of jewellery design categories with material details and technical aspects. The aim is to equip the students with a strong design portfolio for their successful entry into the Jewellery industry.

PORTFOLIO PRESENTATION

A Jewellery collection based on a selected theme has to be designed and produced Sequence of collections – conceptualization, mood board, inspirations, design development, material selection, final design production, presentation with technical details and costing.