

M. Voc. in Computer Aided Jewellery Design

Year 2 - Semester 3

Course Code: D902

Paper Code:

Title: Entrepreneurship in Gems & Jewellery

Pre-requisite: N. A.

Objectives: The Module Aims

- To provide a global introduction to the process of turning an idea into a successful start-up enterprise in G&J Sector. There will be a special emphasis on Commercializing innovations derived from research and technology development. The track will be useful for anyone having little or no pre-existing entrepreneurial experience.
- To orient the students to various business processes, business models, & trade practices. Develop understanding of design as business plus implications for entrepreneurship.
- To train and develop students to become effective entrepreneurs and understand the planning process required for setting up a small business and prepared to intelligently evaluate potential start-up opportunities for personal involvement.
- Develop knowledge of intellectual property rights laws, licensing, trading rights, IPR registration

Syllabus:

- Meaning of Entrepreneurship
- Various types of industries
- Developing an innovative product
- Studying competition
- Steps to set up an enterprise
- Managing operations in Business
- Marketing of New Business
- Banking & Finance
- Human Resource Management for New business
- Industrial/Commercial laws
- Location Analysis
- Surviving in long-run
- Intellectual Property Protection.
- Project Identification and compilation of project report
- Interaction with few successful entrepreneurs in G&J Sector

Suggested books and references:

- Robert D. Hisrich, Michael P. Peters, Dean A. Shepherd. Entrepreneurship Edition 7, illustrated. McGraw-Hill/Irwin, 2008. ISBN 007125952X, 9780071259521

- Barringer, Bruce R., and R. Duane Ireland. Entrepreneurship: Successfully Launching New Ventures. Pearson Prentice-Hall, 2006 (2nd Ed).
- Mark. J. Dollinger, Entrepreneurship – Strategies and Resources, Pearson Edition.
- UdaiPareek and T.V. Rao, Developing Entrepreneurship
- S.V.S. Sharma, Developing Entrepreneurship, Issues and Problems
- Srivastava, A Practical Guide to Industrial Entrepreneurs
- Government of India, Report of the committee on Development of small and medium entrepreneurs, 1975

Assignments: Documentation 30% and Final products 70%

Scheme of Examination:Theory Exam

Learning Outcome:

By the end of this unit, Students will be able to:

- Appreciate differences between traditional & contemporary trade practices
- Differentiate between different production systems
- Understand methods of sourcing, supply chain & quality benchmarks in different types of jewelry
- Familiarize themselves with trade cycles, events, occasions & lead time
- Understand tax structure that apply to commercial trading
- Understand industrial and commercial laws and regulations that govern the setting up of an enterprise
- Understand & evaluate IPR related implications in various business transactions
- Articulate terms, fees/salaries/payments against rendering of design as a service

Course Code: D902

Paper Code:

Title: Advanced Computer Aided Jewellery Design– Level 2

Pre-requisite: N.A.

Objectives: The Module Aims

- To orient the students to develop understanding of application of digital modeling Sculpting software to develop jewellery design
- To implement Accurate sculpting for creation of fine details and techniques for generating self-create design on this Software
- Develop Sculpting in this software is akin to working with a digital ball of clay, shaping it as if you were working by hand using appropriate tool.
- To develop create highly detailed models for any kind of Jewellery Product.

Syllabus:

- Learn Sculpting to develop any high resolution model in Jewellery design.
- Sculpting without technical restrictions through DynaMesh: endlessly add to, delete from, cut and carve of your model.
- Embossing or engraving by image projection.
- Export models composed entirely of quadrangles for easier conversion to parametric surfaces using 3rd party software/plugins.
- Selectively replace individual polygons with 3D objects, easily building complexly detailed designs.
- Develop Independent design range of jewellery products e.g. pendant, earring, rings, accessories, etc.
- Develop Digital jewellery Library

Suggested books and references:

- <https://pixologic.com>
- <https://www.autodesk.com/>
- <https://3dcoat.com/>

Assignments: Portfolio 100%

Scheme of Examination: Self (Jury)

Learning Outcome:

By the end of this unit, Students will be able to:

- Demonstrating knowledge of technical specification using appropriate Sculpting CAD software
- Competency of modeling & product presentation on this Software
- Creating jewellery product using this software
- Develop digital portfolio& show reel.

Course Code: D902

Paper Code:

Title: CAD Rendering and Animation

Pre-requisite: N.A.

Objectives: The Module Aims

- To orient the students to develop understanding of application of Computer Aided Rendering and Animation by software for jewellery design
- This course provides students with the principles and techniques of illumination using software's.
- This course covers the principles of animation, and provides students with the understanding of timing. Students learn the 360 Degree Animation of Jewellery Products.
- To develop photorealistic image for any kind of Jewellery Product.

Syllabus:

- Learn to develop any Texture of metal & stone.
- Learn Render Optimization in different view and Camera angle.
- Image-based rendering.
- Digital Compositing
- Principal of Animation and Time.
- Develop 360 Degree Animation.

Suggested books and references:

- <https://pixologic.com>
- <https://www.autodesk.com/>
- <https://3dcoat.com/>

Assignments: Portfolio 100%

Scheme of Examination: Self (Jury)

Learning Outcome:

By the end of this unit, Students will be able to:

- Demonstrating knowledge of Rendering and Animation
- Understand the rendering process .
- Learn to illuminate and animate the jewellery modeled scene with different types of lights and cameras.
- Students will learn to create 360 degree animations.
- Creating Render and animation of jewellery product.
- Develop digital Animation Portfolio.

Course Code: D902

Paper Code:

Title: Innovative Computer Aided Jewellery Design Project

Pre-requisite: SC305P

Objectives: The Module Aims is to

- Develop a Confidence for creating a Jewellery Design in 2D form and Converting in 3D object.
- Develop divergent thinking abilities to create innovative solutions.
- Develop jewellery collection based on functional and mechanized design concept
- Develop technical skills, including machining, rapidprototyping to computer aided design (CAD)

Syllabus:

- Understand Structures & Construction Systems in jewellery product development
- Application of Geometry in jewellery product development
- Apply engineering skill in development of mechanized product development
- Develop Ring, pendant, Bangle (Fixed & Flexible), Earring, etc. with closing mechanism and details specification of individual pieces considering productive aspect.

Suggested books and references:

- www.gemvision.com
- www.gemvisionforum.com

Assignments: Documentation 30% and final products 70%

Scheme of Examination: Self (Jury)

Learning Outcome:

By the end of this unit, Students will be able to:

- Develop engineering skills for jewellery manufacturing
- Develop basic engineering science and manufacturing, with the art of functional analysis
- Understand the opportunities for innovative and creative thinking in CAD based jewellery product development
- Develop jewellerycollection along with presentation skills

Course Code:D902

Paper Code:

Title: Jewellery Business Management

Pre-requisite:N. A.

Objectives: The Module Aims

- To Orient students to Electronic Commerce providing an overview of the fundamental concepts of online marketing, creating a web site, gaining customers online.
- To orient students about international trade, export documentation & procedures
- To orient the students to various business processes, business models & trade practices prevailing internationally
- To develop understanding of Design as business plus implications for ecommerce and e-commerce entrepreneurship

Syllabus:

- Basics of Online Business & Ecommerce
- Online Business Models, E-Commerce Strategies, Online retailing & services
- Ethical, Political & Social Issues in E-Commerce
- Designing Personalized User Experience in E-Commerce
- B2B E-Commerce
- International Business & Marketing
- Understanding Export Markets & Marketing
- Export Procedure & Documentation
- Product Planning & Pricing for Exports
- Trade shows & Exhibitions
- Indian Government Support for exports
- Functions of Quality control & Checking for export markets
- Communication for Export Markets
- Export Business Proposal

Suggested books and references:

- New Import Export Policy - Nabhi Publications
- EXIM Policy & Handbook of EXIM Procedure – VOL I & II
- A Guide on Export Policy Procedure & Documentation– Mahajan
- How to Export – Nabhi Publications

Assignments: Documentation 30% and Final products 70%

Scheme of Examination:Theory Exam

Learning Outcome:

By the end of this unit, Students will be able to:

- Create a portfolio of the steps required to start-up an on-line business
- Knowledge about benefits or disadvantages of setting up an on-line business versus a store-front business. Which one would you select?

- Appreciate differences between traditional & contemporary trade practices (e-commerce)
- Differentiate between different production systems
- Explain the steps required to set-up your E-commerce website for advertising purposes
- Understand methods of sourcing, supply chain & quality bench marks in different types of Jewelry setups, especially in international trade & ecommerce setting
- Understand industrial and commercial laws and regulations that govern the setting up of an enterprise.