



UNIVERSITI TEKNOLOGI MARA

GDI696: SCIENTIFIC IMAGERY

Course Name (English)	SCIENTIFIC IMAGERY APPROVED
Course Code	GDI696
MQF Credit	4
Course Description	This course is aimed to introduce students to a comprehensive and inspiration methodology in learning science based and architectural illustration. This includes establishing the foundation of drawing skills into gradually introduced to complex illustration concept and in-depth study in specific subject matter. The course covers the research of subjects and morphology. Fundamentals of scientific matter such as plant and vertebrate structure also are covered, along with plenty of life-drawing practice to capture gesture and movement in finished pieces. Students are encouraged to progress from merely pictorial to more descriptive, conceptual illustration projects imagery. In addition, students allowed to study specific subject matter in greater depth through botanical, zoological using advanced graphic illustrations and collaborate with the science writers whom ever available.
Transferable Skills	Improve critical observation and thinking skills, visual interpretation, drawing skills techniques, creative and expressionistic of science imaging and art.
Teaching Methodologies	Lectures, Studio, Demonstrations, Field Trip, Tutorial, Web Based Learning, Discussion, Presentation, Supervision, Project-based Learning
CLO	<p>CLO1 Explore and understanding various illustration techniques in the process from generating ideas from critical observation, visual interpretation and drawing skills techniques.</p> <p>CLO2 Incorporate the element of design and drawing style on the subject in composing, interpreting and improving thinking skills for science based (scientific and zoological) illustration.</p> <p>CLO3 Develop and transform creative and expressionistic dimension of science and arts via illustration with detailed graphical information, digital and produce a scientific illustration project and exhibit</p>
Pre-Requisite Courses	No course recommendations
Topics	
1. Week 1- Introduction to Natural Science illustration 1.1) 1. Definition of science and art illustration. 1.2) 2. Study in creating accurate and dynamic scientific illustration. 1.3) 3. Discuss the contribution of graphic illustrators to science world.	
2. Week 2 - Field Sketching 2.1) 1. Field trips subject matters included in various places. Each environments provides varied subject matter to draw. 2.2) 2. Collect and choose any zoological, morphological and botanical subject matter for critical observation and drawing in interpretation and drawing skills techniques.	
3. Week 3 - Field Sketching 3.1) 1. Apply sketches and observational study on subject matter in scientific drawing illustration 3.2) 2. Continuous drawing processes.	
4. Week 4 - Information on science and art illustration 4.1) Introduction to root, theory, principle and current practice of science illustration	
5. week 5 - Information on science and art illustration 5.1) Incorporate element of design and drawing style techniques on species identification, form and function of the subject matter.	

<p>6. Week 6- Natural Science graphic illustration in color 6.1) 1. Examine and explore the mixed media. 6.2) 2. Emphasis on keen observational skills.</p>
<p>7. Week 7 - Natural Science graphic illustration in color 7.1) 1. Practice on design communication of accurate information through color illustration. 7.2) 2. Apply process and color understanding on science art.</p>
<p>8. Week 8 - Assessment Progress 8.1) Critical discussions, work progress and evaluation</p>
<p>9. Week 9 - Botanical Illustration 9.1) 1. Introduction to botany and application of illustration in creating botanical images. Basic study on plant morphology, dissection studies and plant environments. Subject matters suggested as reference: Herb-aria, Live specimens, Field drawings</p>
<p>10. Week 10 - Zoological Illustration 10.1) 1. Introduction on the animal or insect kingdom through selected taxonomic groups on zoological illustration. 10.2) 2. Examine the drawing techniques for representing dimension, texture and detail of various type of animals. 10.3) 3. Produce several zoological illustrations based from discussions such as form and functions, animal behavior or 10.4) environmental catalogues.</p>
<p>11. Week 11 - Biological Illustration 11.1) 1. Introduction to Biological Illustration and collect sample of artifact for observational drawing. 11.2) 2. Examine, select and collect appropriate biological specimen for drawing purpose. 11.3) 3. Expand drawing process and progress.</p>
<p>12. Week 12 - Applied Techniques in Natural Science Illustration display and Exhibit 12.1) 1. Preparation of artwork for display: Integration of images with text. and book and exhibit sizes for exhibit. 12.2) 2. Emphasis on conceptual illustration: How to convey an idea, process, sequence of events, multi topics through visual and presentation means.</p>
<p>13. Week 13 - Progress and discussion 13.1) Continuous process and discussion</p>
<p>14. Week 14 - Final evaluation and submission 14.1) Final submissions, critiques, presentation and submission of portfolio</p>

Assessment Breakdown		%	
Continuous Assessment		100.00%	

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Field Sketching-critical observation, visual interpretation and drawing skills techniques	20%	CLO1
	Assignment	Element of design-drawing style, compositing, interpreting and improving thinking skills for science based illustration.	20%	CLO2
	Assignment	Final evaluation, presentation and submission of working portfolio.	60%	CLO3

Reading List	Recommended Text	<ul style="list-style-type: none"> • Elaine R. S. Hodges 2003, <i>The Guild Handbook of Scientific Illustration</i>, 2nd Ed., John Wiley & Sons. Inc. USA [ISBN: 0471360112] • Wendy Hollender 2020, <i>The Joy of Botanical Drawing: A Step-by-Step Guide to Drawing and Painting Flowers, Leaves, Fruit, and More</i>, WATSON GUPTIL NEW YORK [ISBN: 9781984856722]
	Reference Book Resources	<ul style="list-style-type: none"> • Timothy O'Donnell 2011, <i>Sketchbook: Conceptual Drawings from the World's Most Influential Designers</i>, Rockport Publishers • Isik Guner 2019, <i>Botanical Illustration from Life: A visual guide to observing, drawing and painting plants</i>, 1st Edition Ed., Search Press Ltd. Spain [ISBN: 97817822187] • Phyllis Wood, <i>Scientific Illustration: A Guide to Biological, Zoological, and Medical Rendering Techniques, Design, Printing, and Display</i>, 2nd Edition Ed. [ISBN: 0471285250]
Article/Paper List	Reference Article/Paper Resources	<ul style="list-style-type: none"> • Allison Mcelroy, Katrina Collin, Jamie Marcus 2014, Art and Science Observations (Scientific Illustration), <i>Research Gate</i>
Other References	This Course does not have any other resources	