

**NORTHBROOKS
SECONDARY SCHOOL**
SOARING YET ROOTED

*Sec 2 Subject
Information:
C&T Electives
(G3)
ART, D&T, NFS*





What interests you?



C&T Coursework subjects for G3 Level: **ART, D&T, NFS**

- Students in the G3 level take a set of compulsory subjects and can have a choice of subjects (also known as elective subjects) at the upper secondary (Secondary 3 onwards). The school offers a range of elective coursework subjects to cater to the needs and interest of our students.
- **Coursework** refers to a rigorous research paper or design project where students to analyze, think critically, plan and carry out comprehensive, thorough research which they ask questions, examine issues, gather, record, collate, interpret and evaluate data to complete a working Artefact, Design Journal, Presentation Boards, Artwork and/or Research Paper.
 - The examination question paper will be issued in January of the national examination year.
 - Students are expected to work on their coursework during scheduled sessions in school after curriculum time.
 - Students are required to work independently and adhere to the scheduled submission timeline.



Nutrition & Food Science (NFS) Syllabus in a nutshell

Nutrition & Food Science (NFS) is offered at the upper secondary level as an option for students who have an interest for the subject. The syllabus aims to provide students with a broad understanding of concepts in ***nutrition and health, food literacy and principles of food science***.

The NFS syllabus aims to develop students to:

- ✓ *lead a healthier lifestyle proactively through proper diet and nutrition;*
- ✓ *advocate sustainable food consumption by planning and making appropriate food choices; and*
- ✓ *apply principles of culinary science creatively in food preparation and cooking.*



Nutrition & Food Science (NFS) Syllabus Content

Nutrition and Health

1. Nutrients,
2. Water and Dietary Fibre
3. Diet and Health

Food Literacy

1. Food Management
2. Smart Consumer

Food Science

1. The Science in Food Preparation
2. Reactions in Food During Preparation and Cooking
3. Sensory Evaluation of Food



Nutrition & Food Science (NFS) Scheme of Assessment

Component	Weighting
Paper 1 – Written Examination	40%
Paper 2 – Coursework	60%

Paper 1 (2 h)- 100m

Written Theory paper

- Section A: Multiple Choice Questions (15m)
- Section B: Short Answer Questions & Data Response Questions (55m)
- Section C: Open Ended Questions (30m)

Paper 2: Coursework (60%)- 80m

- Candidates will be given an assignment at the beginning of the examination year which must be conducted under teacher supervision. It should be completed for assessment by the end of July or early August of the examination year.
- A minimum of **28 hours** of curriculum time must be assigned to discuss, facilitate and carry out the investigation report and practical work as required.



How do I know if **NFS** is for me?

Recommended Placement Guidelines for NFS

	For placement to Upper Secondary		
	NFS		
	G1	G2	G3
	Able to demonstrate proficiency in food preparation		
Recommended Subject-specific Skills and Dispositions	Able to consider relevant factors when planning a meal for target groups. Able to explore the sensory outcomes of a dish with <u>support and scaffold</u>	Able to conduct research and apply nutrition and food science principles when planning a meal for target groups.	
		Able to plan an experiment to explore the sensory outcomes of a dish with <u>less support and scaffold</u>	Able to plan a food science experiment to explore the sensory outcome and relate outcomes to food science principles with <u>less support and scaffold</u>
	Able to explain content related to subject discipline		Able to apply content related to subject discipline



Post-Secondary NFS-related Courses

Singapore Polytechnic

- Food Science and Technology

Nanyang Polytechnic

- Food Science and Nutrition
- Food and Beverage Business

Temasek Polytechnic

- Food, Nutrition and Culinary Science
- Culinary and Catering Management

Republic Polytechnic

- Health Management and Promotion
- Health Services Management
- Restaurant and Culinary Operation



NFS-related Career Options

- ✓ Culinary Expert / Chefs
- ✓ Dietitians
- ✓ Food Manufacturer
- ✓ Food Scientist/Flavorists
- ✓ Food Microbiologist
- ✓ Food Technologist
- ✓ Healthcare Aides
- ✓ Nutritionists
- ✓ Personal Trainer



FAQs (NFS)

Q1: What does coursework mean?

A: Coursework refers to a rigorous research paper (approximately 20 – 25 pages) which requires students to analyze, think critically, plan and carry out comprehensive, thorough research and construct an investigative experiment (GCE 'O' Level only) in which they ask questions, examine issues, gather, record, collate, interpret and evaluate data. It will involve students in carrying out any of the following: comparative studies; food science investigative work. These will be conducted in relation to the research paper. Practical work is an essential feature of the coursework which will take up 24% of the total coursework score.

Q2: What are the components in Coursework?

A: There are 6 components for Coursework submission which comprises of research paper (approximately 20 – 25 pages of report writing) The components are Research, Decision making, Investigation, Execution (organization & management, manipulation, product & presentation) Evaluation.



FAQs (NFS)

Q3: What is the format for coursework report submission?

A: The coursework report must be word processed and submitted electronically. The recommended typeface is Arial, minimum font size 11, or Times New Roman, minimum font size 12. Digital photographic evidence of the Exploratory Study and the final dishes in the Execution criteria must be included in the report. The page requirement of the report is between 15–20 pages.

Q4: Why is NFS offered to a maximum of 20 students?

A: The Culinary Lab is considered a special room which limits the number of students due to safety constraints. Also the NFS practical skills and techniques taught need to be closely supervised and monitored, hence a fixed class size of 20 is mandated.

Q5: Must I be proficient in culinary skills to apply for NFS?

A: No, all technical skills will be taught in the curriculum to prepare for national examinations. However, it will be advantageous if you are already equipped with some prior knowledge. Another advantage is to have access to basic kitchen equipment at home for culinary practice.



FAQs (NFS)

Q6: How much time is required to complete the coursework?

A: A duration of 28 hours is specified for the O-level coursework and 25 hours is specified for the N'level coursework. As coursework must be done in school, students will complete it within extended curriculum hours.

Q7: Is NFS a relevant subject considered for aggregate computation to the Pre-University (i.e. Junior Colleges and Millennia Institute), Polytechnic and ITE courses?

A: Yes, NFS is one of the relevant subjects to Pre-University courses, Science-related courses in Polytechnics. Otherwise, it can be considered as one of the Best 2 Other Subjects for aggregate computation in Polytechnics. For ITE courses, NFS can be considered as one of Best 2 or Best 3 Other Subjects for aggregate computation

ART Syllabus in a nutshell

Art isn't just about painting or drawing—it's about developing your ability to see, think, and express differently. Through Art, you'll engage deeply with ideas and learn skills that stretch far beyond the canvas.

Purpose of Art Education:

- ✓ Develops imagination, creativity and adaptability
- ✓ Enhances critical and visual communication skills
- ✓ Fosters identity, cultural awareness and societal understanding

Big Ideas to guide Art Learning:

1. Art helps us see in new ways.
2. Art tells stories about our world.
3. Art influences how we live.

ART Syllabus Content

Core Learning Experiences

1. Building Portfolios
2. Art Journalling
3. Art Conversations

Four Key Areas of Learning Content:

1. Art Forms and Media
2. Visual Qualities, Visual Strategies, Design Concepts
3. Context (Identity, Documentation, Commentary)
4. Artistic Processes (Observe, Investigate, Experiment, Evaluate, Reflect)



ART Forms and Media

Foundational

- Drawing (Graphite, Charcoal, Coloured pencils, digital drawing apps like Procreate, Photoshop)
- Digital Imaging (Photography, tablets, Sketchbook, Adobe CC software)

Elective Art Forms (must choose at least 3, at least 1 Fine Art, and 1 Design/Time-based):

Fine Art	Design	Time-Based
Painting, Printmaking, Photography	Illustration, Graphic Design	Video, Animation, Motion Graphics
Sculpture, Mixed Media, Installation	Fashion, Packaging, Architecture	



ART Scheme of Assessment

Paper 1: Visual Response (50%)

- 2 hours 15 mins
- Section A: Visual Analysis (10 marks written)
- Section B: Exploratory Sketching (40 marks, practical sketching task, based on Big Ideas)

Paper 2: Portfolio (50%)

- Over 30 hours within 12 weeks
- Part A: Selection of Visual Materials (15 screens, min. 3 art forms)
- Part B: Commentary (Artistic growth reflection, max. 800 words, max. 10 A4 pages)

Assessment Objectives

Knowledge

- Observe visual elements; research and cite sources

Application

- Experiment and create using various art media

Communication

- Develop ideas visually; articulate artistic intent clearly



Expectations and Demands of the Art Syllabus

Commitment:

- Independent and self-directed work ethic
- Regular attendance and participation in after-school art sessions

Skills to Develop:

- Critical, adaptive, inventive thinking
- Technical competency in various art forms
- Visual and contextual research (taking your own photos, visiting exhibitions, etc.)

Experiences:

- Participation in enrichment activities (e.g., workshops, artist talks, learning journeys)
- Submission of artworks for school or external competitions and exhibitions



How do I know if **Art** is for me?

Recommended Placement Guidelines for Art

	For placement to Upper Secondary		
	ART		
	G1	G2	G3
	Able to explore and manipulate art media to achieve intended outcomes		
Recommended Subject-specific Skills and Dispositions	Able to apply artistic processes (i.e. observing, gathering of information, generating possibilities) with <u>support and scaffold</u> .	Able to apply artistic processes (i.e. observing, gathering of information, generating possibilities) with <u>less support and scaffold</u> .	
	Able to do <u>simple</u> analysis of visual qualities of artworks and apply learning to own art making.		Able to do <u>deeper</u> analysis of visual qualities of artworks, <u>make connections with their contexts</u> , and apply learning to own art making.

Post-Secondary ART-related Courses

Nanyang Polytechnic

Animation & Visual Effects

Visual Communication

Ngee Ann Polytechnic

Film, Sound & Video

Republic Polytechnic

Design for Games & Gamification

Singapore Polytechnic

Interior Design

Media, Arts & Design

Nanyang Academy of Fine Arts

Fine Arts 3D Design

Design & Media

Fashion Studies

La Salle College of the Arts

Animation

Interior Design

Design for Communication & Experiences

ART-related Career Options

- ✓ Art Gallery Curator
- ✓ Game Designer/Programmer/Producer
- ✓ Graphic Designer
- ✓ Media Industry - broadcast, producer, camera professional
- ✓ Product Designer
- ✓ Visual Graphics Professional
- ✓ 2D/ Animation/ 3D Art Visual Artist
- ✓ Architectural Technology
- ✓ Filmmaking (Cinematography)
- ✓ Interactive Design
- ✓ Motion Graphics
- ✓ Performance Production
- ✓ Visual Effects
- ✓ Visual Merchandising



FAQs (ART)

Q1: What is Paper 1 (Visual Response) about?

A: Paper 1 tests your visual analysis and creativity.

It has two parts:

- **Section A (Visual Analysis):** You'll observe and critically write about an unseen artwork provided during the exam.
- **Section B (Exploratory Sketching):** You'll create sketches and annotations based on the provided visual stimulus, demonstrating your ideas linked to one of the syllabus's Big Ideas.

Q2: What is Paper 2 (Portfolio) about?

A: Paper 2 is a comprehensive presentation of your best artistic work and personal growth across the two years. It has two components:

- **Selection of Visual Materials:** Choose visual examples (up to 15 screens) from your art explorations, demonstrating work in at least 3 different art forms/media.
- **Commentary:** Write a short essay (up to 800 words) describing your artistic development, inspirations, and reflections, based on 3 chosen artworks.



FAQs (ART)

Q3: Must I already be good in various art mediums like acrylic, watercolour, or digital imaging?

A: No, all necessary skills and techniques will be taught and practised in class. However, having an interest or some prior experience can give you a helpful advantage, especially in confidently exploring ideas and techniques.

Q4: Is Art considered a relevant subject for entry to Pre-University (Junior College, Millennia Institute), Polytechnic, or ITE courses?

A: Yes. Art is relevant and beneficial for admission to:

- **Junior Colleges/Millennia Institute:** Can be counted among subjects for aggregate scores.
- **Polytechnics:** Directly relevant for courses related to Design, Visual Communication, Animation, Interior Design, Media, and related fields. Art can also be counted as one of your "Best 2 Other Subjects."
- **ITE:** Art can count as one of your "Best 2 or 3 Other Subjects."



FAQs (ART)

Q5: How do I know if Art is suitable for me?

A: Art might suit you if you:

- Have a strong interest in creating and appreciating visual work.
- Are curious, imaginative, and willing to experiment and express your ideas visually.
- Can work independently and manage your time effectively.
- Are excited to engage in art experiences beyond classroom lessons (workshops, gallery visits, art events).

Q6: What is the commitment required for Art coursework?

- Coursework preparation requires consistent effort over two years.
- Attend scheduled after-school sessions regularly.
- Independently conduct visual research, take photographs, and regularly reflect and develop ideas outside class time.
- Complete artworks and assignments diligently, adhering strictly to submission timelines.



D&T Syllabus in a nutshell

The Design & Technology (D&T) syllabus is designed to engage students in designing and prototyping ideas through applying technology.

Through the design process, students cultivate creative, critical and reflective thinking to make sense of their learning and to develop related dispositions and skills using graphical means and technology.

The D&T syllabus aims to provide designing and prototyping opportunities via the Design Process for candidates to:

- ✓ develop design-related dispositions
- ✓ acquire design techniques and strategies
- ✓ consolidate a sound working knowledge of technology (materials, workshop processes, mechanisms and electronics)



Design & Technology (D&T) Syllabus Content

A KNOWLEDGE WITH UNDERSTANDING

- designing and prototyping
- nature of the design process
- plan and manage their project

B DESIGN THINKING SKILLS

- detect, frame and understand everyday needs for design opportunities
- generate tentative ideas through inquiry
- analyse and synthesise relevant knowledge and information

C DESIGN MANIPULATING SKILLS

- sketch proposed design solution
- build mock-up(s) to test ideas for decision making
- work with appropriate technology for prototyping



How do I know if **D&T** is for me?

Recommended Placement Guidelines for D&T

	For placement to Upper Secondary		
	D&T		
	G1	G2	G3
Recommended Subject-specific Skills and Dispositions	Able to use visuals (e.g. images and sketches) to arrive at a proposed design solution in response to the design need, design brief and design specifications.		
	Able to consider relevant factors when generating and developing ideas with <u>support</u> and <u>scaffold</u>	Able to consider relevant factors when generating and developing ideas with <u>less support and scaffold</u>	
	Able to state design need, design brief and design specifications.		Able to define design need, design brief and design specifications based on relevant research information



Scheme of Assessment

Paper	Duration	Assessment Domains			Total
		A Knowledge with Understanding	B Design Thinking Skills	C Design Manipulating Skills	
1 Written Examination	2 hours	25%	10%	5%	40%
2 Design Project	22 weeks	15%	20%	25%	60%
Overall		40%	30%	30%	100%

- The Design Project is an individual coursework-based examination. The examination will be conducted over **22 weeks** from the question paper release, excluding school holidays. Candidates will be required to work on a **design and prototyping project** based on the examination question.
- The Design Project will comprise two components: The Design Journal and Presentation Board.



Post-Secondary D&T-related Courses

Singapore Polytechnic

- Design Studies

Nanyang Polytechnic

- Communication & Motion Design
- Experiential Product & Interior Design
- Game Development & Technology

Temasek Polytechnic

- Product Experience & Design
- Interior Architecture & Design
- Communicative Design

Republic Polytechnic

- Digital Design & Development
- Engineering Design with Business



D&T-related Career Options

- ✓ Graphic Designer
- ✓ Industrial Designer
- ✓ Web Developer
- ✓ Software Developer
- ✓ Multimedia Artist
- ✓ Engineer, Architect
- ✓ Landscape Architect/Designer
- ✓ Interior Designer
- ✓ Renderer
- ✓ Product Designer



FAQs (D&T)

Q1: Is D&T useful if I want to go JC?

A: While not directly relevant to any H2 subject in Junior College, skills obtained in the study of Design and Technology is relevant and useful in H1 Project Work.

Q2: Will D&T be helpful for me if I want to go polytechnic?

A: Yes, Design and Technology is one of the subjects that is required to be read should the student wish to take up courses in the area of Engineering, Design or Architecture.

Q3: I am passionate about D&T, but I failed my Secondary 2 D&T, will I still have a chance?

A: A pass is required for a chance to qualify for Upper Secondary D&T, and placement is decided by choice and aptitude of the batch of students.

Q4: Why is D&T offered to a maximum of 20 students?

A: The D&T workshop is considered a special room which limits the number of students due to safety constraints. Also the D&T practical skills and techniques taught need to be closely supervised and monitored, hence a fixed class size of 20 is mandated.



Useful links

- Pls scan the QR code to SEAB syllabus info, and other useful info

