Holy Angel University
School of Engineering and Architecture
Architecture Department
Angeles City, Pampanga

BACHELOR OF SCIENCE IN ARCHITECTURE
Brief outline of all courses in the programme
Curriculum 2018-19

Brief Outline for Courses under Curriculum 2018-19

I. TECHNICAL COURSES

A. MATHEMATICS

SOLIDMEN: Solid Mensuration
Units: Lec: 2 Lab: 0 **Pre-requisite: NONE**

The course covers the measurement of plane figures and the study of solid objects as expressed using algebraic equation. It is divided into two sub-courses namely, analytic geometry and solid geometry.

- Analytic geometry studies coordinate systems; equations and their loci; straight lines, conic sections and higher plane curves; transformation of coordinates; algebraic curves; polar curves; transformation of coordinates in space; quadric surfaces.
- Solid geometry covers the measurement of Plane figures, cubes, parallelepipeds; cylinders; prisms; pyramids; frustums of a pyramid; spheres; frustums of a cone.

Course Outline:

1. Solid Geometry
   - 1.1 Solid for which V = 1/3Bh
   - 1.2 Pyramids
   - 1.3 Similar figures
   - 1.4 Cones
   - 1.5 Frustum of A Regular Pyramid
   - 1.6 Frustum of A Right Circular Cone
   - 1.7 Sphere

DIFFINTCALC: Differential and Integral Calculus
Units: Lec: 3 Lab: 0 **Pre-requisite: SOLIDMEN**

The course covers two major parts. Differential calculus covers functions; limits and continuity; derivatives of algebraic functions; differentials; partial derivatives; indeterminate forms; applications. Integral calculus covers anti-derivatives; integration methods and techniques; definite integrals; multiple integrals; applications; infinite series.

Course Outline:

1. A Review on Functions
    1.1. Limits (Squeeze Theorem on the Sine Function)
    1.2. Continuity
    1.3. Tangents and Other Rates of Change (concept only)
    1.4. Derivatives
2. Differentiation Rules/ Formulas
    2.1. Polynomial & Exponential Functions
    2.2. The Product & Quotient Rules
    2.3. Chain Rule, Inverse Trig. Functions
    2.4. Implicit Differentiation
    2.5. Higher Derivatives
3. Tangents and Normals to a Curve
    3.1. Rates of change
    3.2. Related Rates
    3.3. Approximations and Differentials
4. Maximum and Minimum Values (Concavity, Points of Inflection)
    4.1. Optimization Problems
5. The chain rule / implicit differentiation
6. Integration Concept / Formulas
    6.1. Anti-differentiation
    6.2. Simple Power Formula
    6.3. Logarithmic Function
    6.4. Exponential Function
    6.5. General Power Formula
    6.6. Constant of Integration
    6.7. Definite Integral
7. Integration Techniques
    7.1. Integration by Parts
    7.2. Trigonometric Integrals
    7.3. Rational Functions
    7.4. Rationalizing Substitution
    7.5. Table of Integrals
8. Application
    8.1. Improper Integrals
    8.2. Plane Area
    8.3. Areas between Curves
9. Other Applications
    9.1. Volumes
    9.2. Centroids
    9.3. Moments of Inertia
    9.4. Radius of Gyration
    9.5. Work
    9.6. Hydrostatics Pressure and Force
10. Surfaces Multiple Integral as Volume
    10.1. Surface Tracing: Planes
    10.2. Spheres
    10.3. Cylinders
    10.4. Quadratic Surfaces
    10.5. Double integrals
11. Triple Integrals

B. NATURAL / PHYSICAL SCIENCES

ENVISCI: Environment, Science and Society

Units: Lec: 2 Lab: 0 **Pre-requisite: NONE**

The course is about the environmental classification, laws issues and other factors that affect the natural environment. It is also about issues on safety and safety precautions.

Course Outline:

1.0 Fundamental Laws of the Natural Resources/Environment
2.0 Classification of the Natural Resources
    2.1 Inexhaustible Resources
    2.2 Renewable Resources
    2.3 Non-Renewable Resources
3.0 The Eco-Systems
    3.1 Marine Eco-Systems
    3.2 Coastal Eco-Systems
    3.3 Lowland Eco-Systems
    3.4 Upland Eco-Systems
    3.5 Forest Eco-Systems
4.0 Environmental Threats
    4.1 Causes of Environmental Problems
    4.2 Global Warming-Greenhouse Gases, Effects of Temperature Change, Kyoto Protocol
    4.3 Ozone Layer-Ozone Depletion Substances, CFC and Halons Pollution
5.0 Laws on Environmental Protection
    5.1 Solid Waste
    5.1.1 Ecological Solid Waste Management Act (RA 9003)
    5.1.2 Waste generation, waste segregation and volume reduction

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C. BASIC ENGINEERING COURSES

STATICS-AR: Statics of Rigid Bodies

Units: Lec: 3 Lab: 0 **Pre-requisite: DIFFINTCALC**

The course covers topics in the statics of rigid bodies including force systems, structure analyses, friction, centroids and centers of gravity and moments of inertia.

Course Outline:

1. Introduction to mechanics (statics)
2. Force vectors and equilibrium of particles
3. Moment of a force
4. Couples, moment of a couple
5. Equivalent force systems in 2D and 3D
6. Reactions and internal forces acting on beams, trusses, frames and machines
7. Uniformly Distributed Loads, Uniformly Varying Loads, and Catenaries;
8. Dry static friction, wedges, belt friction

STRENGTH: Strength of Materials

Units: Lec: 3 Lab: 0 **Pre-requisite: STATICS-AR**

This is a course covering topics in strength of materials which includes axial stress and strain, stresses for torsion and bending, combined stresses, beam deflections, indeterminate beams and elastic instability.

Course Outline:

1. Hooke's Law - Elasticity, Stress & Strain Relationships.
2. Moment of Inertia, Centroids, and Radius of Gyration
3. Shear & Moment Diagrams
4. Deflection of Beams
5. Determination of statistically determinant structures
6. Elastic stability of columns.

STRUCTURES: Theory of Structures

Units: Lec: 3 Lab: 0 **Pre-requisite: STRENGTH**

The course is about the determination of values of shear, moments and deflections of statically determinate & indeterminate beams.

Course Outline:

1. Shear & moment diagram of Simply Supported Beams.
2. Shear & moment diagram of Statically Indeterminate Beams using
    2.1. Three-Moment Equation
    2.2. Moment Distribution Method
3. Deflection of Beams.

STEELTIMB: Steel and Timber Design

Units: Lec: 3 Lab: 0 **Pre-requisite: STRUCTURES**

The course is about the structural design and investigation of simple elements of structural timber and steel.

Course Outline:

1. A review of the shear and moment diagrams of
    1.1. Simply-supported beams
    1.2. Cantilevered beams
    1.3. Continuous beams using the Moment Distribution Method
2. Introduction to the design of simply-supported timber beams
3. Introduction to the design of cantilevered beams
4. Investigation procedures
    4.1. Simply Supported and Cantilevered Beams
    4.2. Axially-Loaded Columns
5. Introduction to the design of structural steel
6. Design of simply-supported steel sections using the ASTM Manual
7. Design of continuous beams by Moment Distribution Method
8. Design based on various loading conditions
9. Design and investigation of timber and steel beams under moving loads

ARSTRUCTS: Reinforced Concrete Design (Architectural Structures)

Units: Lec: 3 Lab: 0 **Pre-requisite: STEELTIMB**

The course is about the design and investigation of simple reinforced concrete structures

Course Outline:

1. Review of Simple Supported Structures
2. Review of Indeterminate Structures
3. Design of Simply Supported R.C. Beams
4. Investigation of S.S R.C. Beams
5. Design of One way Slab and the Codes
6. Design of 2 Way Slab and the Codes
7. Design of Continous Beams and the Codes
8. Design of R.C. Columns (short) and the Codes
9. Soil Analysis
10. Piling

SURVEYING: Surveying
Units: Lec: 2 Lab: 0 **Pre-requisites: DIFFINTCALC**

The course covers the theory and use of surveying instruments including tape, transit, level and stadia; methods of running traverse and levelling.

Course Outline:

1. Pace factor
2. Taping
3. Differential Leveling
4. Transit & Level Surveying
5. Traverses, Area by DMD method.

D. ALLIED COURSES

AGRAPHICS1: ARCHITECTURAL VISUAL COMMUNICATIONS 1: GRAPHICS 1
Units: Lec: 1 Studio: 2 **Pre-requisite: NONE**

The study of visual communication, typography, alphabet of lines and their applications and the use and care of instruments, geometric construction, use of scale, mensuration and dimensioning. Emphasis is given to the study of the theory of projection with analysis of the relationship between points, lines and planes in space. Includes exercises on surface development and graphic presentation.

Course Outline:

1. Architectural lettering
2. Drawing instruments; use and care
3. Alphabet of lines: proper applications
4. Rules of dimensioning
5. Geometric construction; graphical method
6. Theory of projection
    - 6.1 Orthographic projection
    - 6.2 Axonometric projection
7. Surface development
    - 7.1 Plotting using graphical method
    - 7.2 3-D modeling

AVISTECH1: Architectural Visual Communications 2: Visual Techniques 1
Units: Lec: 1 Studio: 1 **Pre-requisite: NONE**

The study of visualization and graphic presentation in the form of freehand drawings including still-life and architectural forms and entourage using different media, in black and white/monochrome.

Course Outline:

1. Principles of freehand drawing including composition, proportioning and shading
2. Techniques in the use of different tools and media in presentation such as –
    - 2.1 Pencil
    - 2.2 Pen and Ink
3. Other Monochromatic media
4. Principles of incorporating architectural entourage in perspectives.

AGRAPHICS2: Architectural Visual Communications 3: Graphics 2
Units: Lec: 1 Studio: 2 **Pre-requisite: AGRAPHICS1**

An introduction to measured drawings applying graphic conventions; the study of pictorial presentation and perspective projections; plotting of shades and shadows in both orthographic and perspective drawings.

Course Outline:

1. Architectural graphic conventions
    - 1.1 Materials
    - 1.2 Line weights
    - 1.3 Dimensioning rules
    - 1.4 Architectural lettering, rules and proportion conventions
    - 1.5 Standard size of paper and requirements for title blocks for working drawings
    - 1. 6 Sheet composition
2. Architectural drawings
    - 2.1 Introduction to principles and techniques in producing architectural drawings such as floor plans, elevations and sections.
3. Principles of perspective projection; shades and shadows (exterior and interior perspective)
    - 3.1 One-point
    - 3.2 Two-point

AVISTECH2: Architectural Visual Communications 4: Visual Techniques 2
Units: Lec: 1 Studio: 1 **Pre-requisite: AVISTECH1**

An introduction to the study of color as form-giver; psychology of color; theories of light and color; scientific and aesthetic considerations of color; study and exercises on the use of color as presentation tool; architectural presentations and outdoor color rendering using appropriate techniques in color mixing and application and various media such as watercolor, acrylic paints, pastel etc.

Course Outline:

1. Theories of light and color
    - 1.1 Additive and subtractive
    - 1.2 Color composition and schemes
    - 1.3 Light, shade and shadow in color
2 Architectural rendering materials
    - 2.1 Types of paper
    - 2.2 Types of brushes
    - 2.3 Types of watercolors
    - 2.4 Other coloring materials
    - 2.5 Auxiliary tools and materials
3. Techniques in handling color
    - 3.1 Rendering in transparent watercolor (wet and dry)
    - 3.2 Rendering in opaque watercolor

3.3 Rendering in dry media

AVISTECH3: Architectural Visual Communications 5: Visual Techniques 3
Units: Lec: 1 Studio: 1 **Pre-requisite: AVISTECH2**

It covers exercises on advanced techniques of presentation using mixed media. Includes the study of multi-media composition/digital presentation, photography and computer generation.

Course Outline:

1. Advanced presentation techniques using:
    - 1.1 Markers

1.2 Colored Pencils
1.4 Mixed media
2. Model-making principles and techniques
3. Architectural Photography
3.1 Photographing buildings and landscapes
3.2 Photographing table models
3.3 Photo-montage techniques
4. Introduction to computer-generated presentation (Adobe Photoshop).

E. PROFESSIONAL COURSES

ARDESIGN1: Architectural Design 1: Introduction to Design
Units: Lec: 1 Studio: 1 Pre-requisite: NONE

Design fundamentals involving basic creative design exercises with emphasis on space, form and mass

Course Outline:
1. Introduction to the concept of '"DESIGN"
2. Visual thinking and Graphic Ideas; Design Concepts
3. Design Metaphors, Similes and Analogies; Problem Identification, Understanding
4. Formulation of Ideas, Problem Solving Activities and Presentation of Solution
5. Introduction to Elements of Design focusing on Forms (various shapes as applied in design)
6. Introduction to Elements of Design focusing on Visuals (color, texture, line, value, shape, movement, space etc)
7. Elements of Architecture
8. Introduction to Principles of Design, Order and ordering Elements
9. Geometry and Shapes; Scale, Size, Proportion and Optical Weight
10. Repetition, Rhythm, Balance, Symmetry, Harmony and Pattern

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ARDESIGN2: Architectural Design 2: Creative Design Fundamentals
Units: Lec: 1 Studio: 1 Pre-requisites: ARDESIGN1 & ARTHEORY1

Design exercises involving anthropometrics, modular coordination, functional relationships and activity circuits including basic design techniques and tools.

Course Outline:
1. Anthropometrics, Ergonometrics, Behavioral Settings, Activity Analyses, Spatial Analyses
2. Interrelationship of Spaces, Proximity Matrices and Programming
3. Concepts of Simple Residential Design
4. Concepts of Complex Residential Design

ARDESIGN3: Architectural Design 3: Creative Design In Architectural Interiors
Units: Lec: 1 Studio: 2
Pre-requisites: ARDESIGN2, ARINTERIORS, ARTHEORY2

Design exercises stressing the value of programming, orientation, and inter-relationship of interior spaces.

Course Outline:

1. Importance of Climatological, Ecological, Solar & Wind Considerations Day lighting to Design
2. Basic Space Programming, Basic Proximity Matrices Complex Space Programming, Detailed Proximity Matrices

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ARDESIGN4: Architectural Design 4: Space Planning 1

Units: Lec: 1 Studio: 2 **Pre-requisite: ARDESIGN3**

Design exercises involving innovative approaches on vernacular architecture including energy conservation and space management.

Course Outline:

1. Construction Materials & Systems as Design considerations, Relation of Form to structure, Utility systems as Design consideration
2. Indigenous Building Technologies and their influence to design, New Bldg. Technologies,
3. Adaptive Reuse and Restoration

ARDESIGN5: Architectural Design 5: Space Planning 2

Units: Lec: 1 Studio: 3 **Pre-requisite: ARDESIGN4**

Design exercises stressing the analysis of space requirements based on organizational structure, functional set up and human behavior to focus on linkages and interaction to spaces.

Course Outline:

1. Cost as a factor of Design, Design Options and Cost implications, Materials as cost and Design Factor, Cost control in building
2. User requirements and cost Limitations / Opportunities, Energy Efficiency in Buildings and Design Considerations
3. Site Considerations and its Contribution to Energy Efficiency

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ARDESIGN6: Architectural Design 6: Site Development Planning and Landscaping

Units: Lec: 1 Studio: 3 **Pre-requisite: ARDESIGN5**

Design exercises stressing environmental analysis, aesthetic, topographic, geologic, and seismologic conditions, utilities, circulations, legal considerations and sensitivities of man.

Course Outline:

1. The Natural and the Built Environment, Green Architecture, Sustainable Architecture, Design & Disaster Mitigation
2. Topographical considerations in design, Geological considerations in design, Seismological considerations in Design
3. Introduction to the fundamentals of Landscaping

ARDESIGN7: Architectural Design 7: Community Architecture and Urban Design
Units: Lec: 1 Studio: 4 Pre-requisite: ARDESIGN6

Design exercises giving emphasis on the socio-cultural activities of man, architectural conservation, proxemics and materials for architecture and designing with nature.

Course Outline:
1. The importance of Community in Public Design, The social Construction of Communities
2. Creating & identifying Senses of Place, Physical/Urban Design and communities
3. Co-Design Process and its application to Urban Design

ARDESIGN8: Architectural Design 8: Design of Complex Structures
Units: Lec: 1 Studio: 4 Pre-requisite: ARDESIGN7

Design exercises giving emphasis to process and development of building structures, utilities, laws, structural concepts and ecological planning.

Course Outline:

1. The Advent of the Skyscrapers, Intelligent Buildings, Advanced Technology and its effect on Human Behavior
2. High Rise Structures with design considerations including Utilities, Ecological and other Site considerations
3. Complex Structures with design considerations including Utilities, Ecological and other Site considerations

ARDESIGN9: Architectural Design 9: Thesis Research Writing
Units: Lec: 1 Studio: 4 Pre-requisite: Completion of all courses in the 1st Year to 4th Year levels

Design exercises stressing the importance of collaboration in solving architectural problems; preliminary research and studies for the terminal project.

Course Outline:
1. An overview of the Architectural Field and the Built Environment, Challenges and Opportunities, A review of Research Process and Methodologies, Student Assessment of areas of Research, Development of Draft of Thesis Proposal
2. Deeper establishment of Research need, situation analysis, development of Theoretical Framework, Operational Definitions, Applicable Methodologies

ARDESIGN10: Architectural Design 10: Thesis Application
Units: Lec: 1 Lab: 4 Pre-requisite: ARDESIGN9

Terminal project involving a comprehensive problem in building, interior and landscape architecture integrating the process and issues of previous studies.

Course Outline:
1. Spatial Translation, Form Concept Translation, Functional Concept translation, Economic Concept Translation
2. Thesis Defense

ARTHEORY1: Theory of Architecture 1
Units: Lec: 1 Studio: 1 **Pre-requisite: NONE**

Design theories with emphasis on perceptual and proxemic sensitivities in organizing forms and space.

Course Outline:
1. Introduction to the course
2. Anthropometric basis of architectural design
3. Dimensions: Scale and proportion
4. Shape, form and unity
5. Balance and gravitational curve
6. Visual acuity and perception
7. User requirement and perception of space
8. Space articulation and territoriality
9. Kinesthetic quality of space
10. Chromatic energy of architectural design
11. Light, color and texture
12. Building Envelope
13. Design Considerations
14. Architectural Concepts
15. Structural Concepts

ARTHEORY 2: Theory of Architecture 2
Units: Lec: 2 Lab: 0 **Pre-requisite: ARTHEORY1**

Evaluation of current concepts, goals, processes and methodologies applicable to architectural design.

Course Outline:
1. Introduction to the course; class requirements, class consultation of rules
2. Architectural Design Process and Methodologies;
3. Conceptualization Techniques of Architectural Design;
4. Masters of Architecture
5. Functional concepts and the interior Environment;
6. Value, Aspirations and culture;
7. Different Architects and their Philosophies

ARINTERIORS: Architectural Interiors
Units: Lec: 1 Studio: 1 **Pre-requisite: ARTHEORY1**

Basic design of interior spaces geared toward initial understanding of theories and principles in architectural interiors in relation to anthropometrics, proxemics and ergonomics.

Course Outline:
1. Introduction
2. Definition: Design in Architecture
3. Fundamental tools of space planning, design and analysis:
Anthropometrics, Proxemics and Ergonomics
4. Color Basics, color identification systems and color schemes
5. Color illusions and advance scheme principles
6. Natural and Artificial lighting systems
7. Indicative locations of utility elements e.g. air conditioning units, electrical outlets/switches etc.
8. Materials for interior e.g. textile, paints etc.
9. Furniture, furnishings and other interior elements
10. Architectural interiors types
11. Period and contemporary styles

12. Design presentation
    12.1 Project simulation: studio work
    12.2 Client presentation

BILDTECH1: Building Technology 1: Building Materials
Units: Lec: 3 Lab: 0 **Pre-requisite: NONE**

It covers building materials - its properties, composition, application and articulation including the mode of specifying these materials in building construction.

Course Outline:

1. Introduction-history of materials as used in building construction, material properties and its application
2. Building Materials
    2.1 Wood and wood products
3. Building stone
    3.1 Classifications of building stone
4. Metals
    4.1 Ferrous metals
    4.2 Non-ferrous metal
5. Glass and Glazing
6. Concrete and concrete products
    6.1 Cement
7. Aggregates
8. Adhesive and Sealant
9. Waterproofing, damp- proofing, termite control systems and Insulation (thermal)
10 Paints and Paint Products
11. Plastic and Synthetic Materials
12 Indigenous materials
    12.1 Non-conventional materials such as saw dust, rice husk, Ipil, coco lumber, etc.
    12.2 Recyclable material and other Alternative Building Materials
13. Fundamentals of building processes, methods and techniques in Construction, Erection, Addition, Repairs, and Renovation of buildings/ structures
    13.1 Carpentry and Joinery
    13.2 Hardware and Ironmongery
    13. 3 Sheet metal and Tinsmithry
    13.4 Structural Steel Construction
    13.5 Fenestration
    13.6 Specialized Works

BILDTECH2: Building Technology 2: Construction Drawings in Wood, Steel and Concrete (1-Storey Structure)
Units: Lec: 2 Studio: 1 **Pre-requisite: BILDTECH1, BILDUTIL1**

Construction methods and techniques and the production of working drawings of a one (1) - storey building structure in wood, masonry, reinforced concrete and steel.

Course Outline:

1. Introduction
    1.1 Working drawing documents, materials used in building construction and building construction methods
2. Basic working drawing and graphical presentation techniques
3. Working Drawings Production (Architectural Drawings)
    3.1 Perspective
    3.2 Floor Pans
    3.2.1 Ground Floor Plan
    3.2.2 Second Floor Plan
    3.3 Elevations
    3.3.1 Front Elevation

3.3.2 Right side Elevation
3.3.3 Left side Elevation
3.3.4 Rear Elevation
3.4 Sections
3.4.1 Cross Section
3.4.2 Longitudinal Section
3.4.3 Bay Section
3.4.4 Detailed Sections
3.5 Reflected Ceiling Plans and details
3.6 Schedule of Doors and Windows
3.7 Schedule of Finishes
3.8 Kitchen Details
3.9 Toilet Details
3.10 Stair Details

4. Structural and Civil Works Documents
4.1 Foundation Plan and Floor System Plan
4.1.1 Footing and Footing Tie Beam Details
4.1.2 Column Details
4.1.3 Floor Beam Details
4.1.4 Slab Details
4.2 Roof Framing Plan
4.2.1 Roof Beam Details
4.2.2 Truss Diagrams and Details

5. Plumbing Drawings
5.1 Water Supply Piping Plan
5.2 Sanitary Drainage Plan
5.3 Storm Drainage Plan
5.4 Plumbing Isometry
5.5 Plumbing Details
5.5.1 Septic Tank Detail
5.5.2 Catch Basin Detail
5.5.3 Cistern Detail
5.6 General Notes and Specification

6. Electrical Documents
6.1 Electrical/ Auxiliary Plan
6.1.1 Lighting Layout
6.1.2 Power Layout
6.1.3 Auxiliary Line Layout
6.2 Schedule of Loads
6.3 Panelboard diagrams
6.4 Riser diagram
6.5 General Notes and Specifications
6.6 Location Plan

BILDTECH3: Building Technology 3: Construction Drawings in Wood, Steel & Concrete (2-Storey Structure)
Units: Lec: 2 Studio: 1 **Pre-requisite: BILDTECH2, BILDUTIL1**

Construction methods and techniques and the production of working drawings of a medium- rise building of reinforced concrete, masonry, glass and steel.

Course Outline:

1. Introduction
1.1 Working drawing documents, materials specifications and building construction methods
2. Advanced working drawing and graphical presentation techniques
3. Working Drawings Production (Architectural Drawings)
3.1 Perspective
3.2 Floor Pans
3.2.1 Ground Floor- Fifth Floor Plans

- 3.3 Elevations
  - 3.3.1 Front Elevation
  - 3.3.2 Right side Elevation
  - 3.3.3 Left side Elevation
  - 3.3.4 Rear Elevation
- 3.4 Sections
  - 3.4.1 Cross Section
  - 3.4.2 Longitudinal Section
  - 3.4.3 Bay Section
  - 3.4.4 Detailed Sections
- 3.5 Reflected Ceiling Plans
  - 3.5.1 Section Details
- 3.6 Doors and Windows
  - 3.6.1 Door Details
  - 3.6.2 Window Details
  - 3.6.3 Schedule of Doors and Windows
- 3.7 Schedule of Floor, Wall (Interior/ Exterior) and Ceiling Finishes
- 3.8 Kitchen Details
- 3.9 Toilet Details
- 3.10 Stair Details
  - 3.10.1 Detailed Plan
  - 3.10.2 Sectional Detail
- 3.11 Other Architectural Details
  - 3.11.1 Cabinet and Closet Details
  - 3.11.2 Moulding, Grilles, etc. Details

4. Structural and Civil Works Documents
   - 4.1 Foundation Plan and Floor System Plan
     - 4.1.1 Foundation (Footing- Spread/ Isolated, Combined, Continuous, Strip, Pile Foundation, Footing Tie Beam, etc. Details
     - 4.1.2 Column Details and Schedule
     - 4.1.3 Floor Beam Details and Schedule
     - 4.1.4 Slab Details and Schedule
   - 4.2 Roof Framing Plan
     - 4.2.1 Roof Beam Details
     - 4.2.2 Truss Diagrams and Details
5. Plumbing Drawings
   - 5.1 Water Supply Piping Plan
   - 5.2 Sanitary Drainage Plan
   - 5.3 Storm Drainage Plan
   - 5.4 Plumbing Isometry
   - 5.5 Plumbing Details
     - 5.5.1 Septic Tank Detail
     - 5.5.2 Catch Basin Detail
     - 5.5.3 Cistern Detail
   - 5.6 General Notes and Specification
6. Electrical Documents
   - 6.1 Electrical/ Auxiliary Plan
     - 6.1.1 Lighting Layout
     - 6.1.2 Power Layout
     - 6.1.3 Auxiliary Line Layout
   - 6.2 Schedule of Loads
   - 6.3 Panelboard Diagrams
   - 6.4 Riser diagram
   - 6.5 General Notes and Specifications
   - 6.6 Location Plan

BILDTECH4: Building Technology 4: Specifications Writing and Quantity Surveying
Units: Lec: 2 Studio: 1 **Pre-requisite: BILDTECH3**

Specifications writing using uniform system or master format, estimating methods and quantity surveying.

Course Outline:

1. Introduction to Specifications Writing
    - 1.1 Types of Specifications
    - 1.2 Uniform System or Masterformat
        - 1.2.1 Three (3)- part Format
        - 1.2.2 Sixteen (16) Division Uniform Construction Index
    - 1.3 Specifications Writing Techniques
2. Estimating and Quantity Surveying
    - 2.1 Introduction to Estimating and Quantity Surveying
    - 2.2 Measuring Quantities
        - 2.2.1 Estimating Civil Works
        - 2.2.1.1 Sitework, Earthworks (Excavation/ Backfill)
        - 2.2.1.2 Concrete Works
        - 2.2.1.3 Rebars
        - 2.2.1.4 Structural Steel Works
    - 2.2.2 Estimating Architectural Materials and Finishes
        - 2.2.2.1 Masonry
        - 2.2.2.2 Doors and Windows
        - 2.2.2.3 Wall Finishes
        - 2.2.2.4 Floor Finishes
        - 2.2.2.5 Ceiling Finishes
    - 2.2.3 Estimating Electrical Materials
        - 2.2.3.1 Wires, conduits and conduit fittings
        - 2.2.3.2 Outlets, switches, receptacles, etc.
        - 2.2.3.3 Panelboard, circuit breakers, etc.
        - 2.2.3.4 Fixtures
    - 2.2.4 Estimating Plumbing Fixtures and Materials
        - 2.2.4.1 Plumbing Fixtures
        - 2.2.4.2 Pipes, Fittings and Valves

2.2.4.3 Plumbing Accessories and other appurtenances

BILDTECH5: Building Technology 5: Alternative Building Construction Systems
Units: Lec: 2 Studio: 1 **Pre-requisite: BILDTECH3**

Construction methods and techniques for different types of buildings using any appropriate alternative building construction system.

Course Outline:

Alternative Building Construction Systems

1. Cast-in- place and Pre-cast
    - 1.1 Floor System and Roof Slab System
    - 1.1.1 Flat Slab
    - 1.1.2 Flat Plate
    - 1.1.3 Ribbed Floor Slab
    - 1.1.4 Waffle Slab
    - 1.1.5 Lift Slab
    - 1.1.6 Spanstress Floor System
    - 1.1.7 Slipform Method
    - 1.2 Wall Panel Systems
    - 1.2.1 Flat type
    - 1.2.2 Ribbed type

1.2.3 Window type and wall type
1.2.4 Tilt-up Wall Panel System
2. Prestressed Concrete
2.1 Pre-tensioning
2.2 Post-tensioning
3. Composite Construction Method
4. Cable/ Tensile Structures
5. Membrane Structures
6. Shell Structures
7. Pre-Engineered Buildings
8. Geodesic Structure

BILDUTIL1: Building Utilities 1: Plumbing and Sanitary Systems

Units: Lec: 2 Studio: 1 **Pre-requisite: NONE**

Principles and practices in plumbing and sanitary systems- its design, installation, operation and maintenance in buildings in relation to the immediate surroundings or environment.

Course Outline:

Plumbing and Sanitary Systems Fundamentals
1. Introduction- concepts and principles, definition of terms
2. Fundamentals of Water Supply System
2.1 Sources and uses of water
2.2 Physical, chemical and biological properties of water
2.3 Water treatment methods
2.4 Water storage and distribution systems (Hot and Cold Water)
3. Sanitary Drainage Systems- Soil, waste (direct and indirect waste piping systems) and vent piping systems
3.1 Ventilation and Ventilation system
3.2 Plumbing traps
4. Storm Drainage Systems (Surface and subsurface storm water)
5. Sewage Disposal Systems, Treatment and Recycling
6. Plumbing materials (water supply, sanitary and storm drainage) and fittings
6.1 Valves and Control devices
6.2 Types of joints, connections and supports
7. Plumbing fixtures
8. Pumps and Pumping Systems
9. Plumbing and sanitary system layout (water supply piping, sanitary and vent piping layout, and storm drainage layout)
10. Plumbing Symbols
11. General notes and specifications
12. Fire Protection systems (Wet, dry, combined and fire sprinkler systems and smoke and fire detection systems

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BILDUTIL2: Building Utilities 2: Electrical, Electronics and Mechanical Systems

Units: Lec: 2 Studio: 1 **Pre-requisite: BILDUTIL1**

Electrical and mechanical systems in buildings- materials, equipment, design, installation and maintenance.

Course Outline:

1. Electrical Systems
1.1 Introduction to electricity and electrical systems; electricity as an energy, sources and alternative
1.2 Sources of energy
1.3 Definition of electrical terms and electrical units

1.4 Ohm's Law
1.5 Power formula
1.6 Electrical circuits- parallel and series circuits
1.7 Resistance
1.8 Electrical conductors and insulator
1.9 Insulated copper conductors- wires and cables
1.10 Wiring methods- cable wiring method, raceway methods
1 .11 Switches
1.12 Overcurrent protective devices- fuse, circuit breaker, ground fault circuit interceptor
1.13 Wiring devices and other electrical materials- junction boxes, utility boxes, pull boxes
1.14 Electrical Instruments
1.15 Electrical symbols
1.16 Electrical plan- power and lighting layout
1.17 Communication Systems
1.18 Telephone, Intercom, Cable TV, Audio/ Video Systems, PA System
1.19 High Technology (Hi-tech) Systems
1.20 Building Automation System (BAS)
1.21 Robotics
1.22 Intelligent Buildings

2. Mechanical System
   2.1 Introduction to HVAC Systems- theory of heat, heat transfer, air conditioning system
   2.2 Definition of terms
   2.3 Air-conditioning systems- types, components and application
   2.3.1 Types of Air-conditioning Systems
   2.3.2 Types of evaporators
   2.3.3 Types of condensers
   2.3.4 Types of compressors
   2.3.5 Air conditioning equipment and controls
   2.3.6 Air cleaning
   2.4 Air- conditioning systems fundamental Design
3. Vertical Transportation Systems
   3.1 Introduction to Vertical Transportation Systems- Elevator, Escalator and other Conveying Systems
   3.2 Definition of terms
   3.3 Elevator system- its components, application and technical information
   3.4 Escalator system- its components, application and technical information
   3.5 Mechanical regulations on the design and installation elevators and escalators
   3.6 Breakthroughs and innovations in Elevator and Escalator Designs

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BILDUTIL3: Building Utilities 3: Acoustics and Lighting Systems

Units: Lec: 2 Studio: 1 **Pre-requisite: BILDUTIL2**

The psycho-physics of acoustics and lighting- its measurement, analysis and application to architectural discipline.

Course Outline:

1. Acoustics
   1.1 Introduction
   1.2 Definition of Acoustic-related terms
   1.3 Sound Theory
      1.3.1 Longitudinal and Transverse Waves
      1.3.2 Frequency
      1.3.3 Velocity of Sound Wave propagation
      1.3.4 Speed of Longitudinal and Transverse Sound Waves
      1.3.5 Wavelength, Sound Intensity (Free Field propagation
      1.3.6 Inverse Square Law (Free Field Condition)
      1.3.7 Sound Pressure and Sound Pressure Level
      1.3.8 Intensity Level changes
   1.4 Sound Absorption, Reflection and Transmission, Mechanism of

Absorption
1.4.1 Sound Absorption Coefficient (SAC)
1.4.2 Noise Reduction and Noise Reduction Coefficient (NRC)
1.4.3 Sound Absorption and Treatment
1.4.4 Absorptive Materials and its Application
1.4.5 Relative Efficiency of Sound Absorbers
1.5 Reverberation Time
1.6 Room Acoustics
1.6.1 Directivity Contour for Speech
1.6.2 Sight Line
1.6.3 Ray Diagram and Sound Paths
1.6.4 Echoes and its control
1.7 Auditorium Acoustics - Calculation and Design (Application
2. Lighting Fundamentals
2.1 Introduction
2.2 Luminous Intensity, Luminous Flux, Illuminance
2.3 Definition of Terms
2.4 Physics of Light
2.4.1 Inverse Square Law
2.4.2 Quantity of Light
2.5 Light Sources: Their characteristics and application
2.5.1 Incandescent Lamp
2.5.2 Fluorescent La
2.5.3 High Intensity Discharge (HID) Lamp
2.6 Lighting Design
2.6.1 Illumination Methods
2.6.2 Types of Lighting Systems
2.6.3 Lighting fixtures and its distribution
2.6.4 Luminaire Efficiency: Coefficient of Utilization (CU)
2.7 Illumination Calculation
2.7.1 Calculation of Average Illuminance
2.7.2 Calculation of Loss Factor (LLF)
2.7.3 Calculation of Horizontal Illuminance by Lumen
2.7.4 Coefficient of Utilization (CU) Calculation
2.7.5 Lumen/ Flux/ Zonal Cavity Method
2.7.6 Point Method
2.8 Lighting Application and Design Using Zonal Cavity Method / General Lighting

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ARHISTORY1: History of Architecture 1

Units: Lec: 2 Lab: 0 **Pre-requisite: NONE**

Architectural manifestation of thoughts from the beginning of civilization to the Byzantine Period.

Course Outline:

1. Orientation/ Introduction
1.1 Requirements
1.2 Policies
1.3 Other diagnostic assessments
1. Introduction on the History of Architecture
2.1 Its definition and objectives
1.2 Its principles and influences
2. Pre-Historic Architecture
3.1 Paleolithic and Mesolithic Period
3.2 Neolithic Man and architecture
3. Historic Architecture
4.1 Pre-Classical architecture
a. West Asiatic Architecture
b. Egyptian architecture
4. Classical Architecture

a. Aegean and Greek Architecture
b. Etruscan and Roman Architecture
5. Early Christian Architecture
6. Byzantine Architecture

ARHISTORY 2: History of Architecture 2

Units: Lec: 2 Lab: 0 **Pre-requisite: ARHISTORY1**

Architectural manifestation of civilization and thoughts during the era of western dominance towards post modernism

Course Outline:

1. Orientation/ Introduction
2. Requirements
3. Policies
4. Other diagnostic assessments
5. Church Architecture
6. Romanesque Architecture
7. Gothic architecture
8. Man and Universal Self: Architecture in the Renaissance Period
9. Man and His Emotions: Baroque and Rococo Architecture
10. Man and the State; Architecture during the growth of the European States
11. Man and A New Nation: Architecture in Colonial & Post Colonial America
12. Man and New Technology: Architecture in the Industrial Revolution
13. Man and His Individual Creativity: Architecture at the Beginning of the Twentieth Century
14. Man and the New Society: The International Style and Modernism
15. Man and Uncertainty: Contemporary Architecture

ARHISTORY 3: History of Architecture 3

Units: Lec: 2 Lab: 0 **Pre-requisite: ARHISTORY2**

Architectural reflections of traditional Asian thoughts and civilizations: their changes and challenges in contemporary life.

Course Outline:

1. Islamic Architecture
2. Architecture of India
3. Architecture of China
4. Architecture of Japan
5. Architecture of Indonesia
6. Architecture of Thailand
7. Architecture of Cambodia
8. Architecture of Nepal and Tibet

ARHISTORY 4: History of Architecture 4

Units: Lec: 2 Lab: 0 **Pre-requisite: ARHISTORY3**

Reflections on architecture in the Philippines: their changes and challenges in contemporary life and the ideology of conserving its architectural legacies.

Course Outline:

1. Philippine Architecture
2. Pre- Spanish period
3. Spanish period

4. American period
5. Post-war period
6. Conservation, Preservation and Restoration
    6.1 Definitions and Objectives
    6.2 Relevant Charters and Laws
    6.3 Issues and Concerns
    6.4 Applicable Case Studies (research – based)

PROPRAC1: Professional Practice 1: Laws Affecting the Practice of Architecture
Units: Lec: 3 Lab: 0 **Pre-requisite: 3rd Yr. Standing**

It covers the legal obligations and responsibilities of the Architect. The course is designed to provide the students with the basic knowledge of all laws related to the practice of architecture.

Course Outline:

1. The Architects Laws
    i. RA 9266
    ii. RA8981, PRC-BOA
    iii. Resolutions
    iv. Civil Code
    v. RA8293
2. The Building & Planning Laws
    vi. BP344
    vii. PD1096
    viii. PD957
    ix. BP220
    3. Other Laws (PD 1185, EO 1008, RA 9285, RA 9184, CIAP Documents 101& 102, Article 1723, RA 8293, RA 455)
        i. BOT Law
        ii. Environmental laws
        iii. HLURB Guidelines
        iv. Others

PROPRAC2: Professional Practice 2: Administering the Regular Services of The Architect
Units: Lec: 3 Lab: 0 **Pre-requisite: PROPRAC1**

It is focused on Architecture as a Profession, Ethical Norms and Office Procedures. The course is designed to provide the students with the basic understanding of the practice of architecture pertaining to the basic services the architect renders within the context of professionalism, ethical conduct and quality service delivery.

Course Outline:

1. The Architect
1.1 an overview of what the architect and the profession is all about
    a. The Architecture Profession
    i. Past and Present
    ii. Important Issues and Concerns
    b. The Architect and the Law
    i. The Virtues and Values of an Architect
    ii. The Spectrum of the Architect's Services
    iii. The 3-D Wheel
    c. The Architect's Role in Society
    i. The Building Enterprise
    ii. Public Interest and Safety
1.2 Professional Education and Training

a. The Architect's Education
b. Apprenticeship and Diversified Training
c. Continuing Professional Development

1.3 Professional Life
a. Professions and Professional Life
b. Professions and Society
c. The Professional Practice of Architecture in the Philippines

1.4 Professional Ethics
a. Professionalism in architectural practice
b. Code of Ethical Conduct

2. The Architect's Regular Services
2.1 The Client Support Circle
2.2 The Design Service
a. Design Process
b. Contractual Framework
c. Delivery Approaches
d. Design Documentation

2.3 Construction Related Services
a. Bidding and Negotiations
b. Construction Contract Administration

2.4 The UAP Standard of Professional Practice
2.5 Professional Fees
2.6 Professional Contracts and Agreements
a. Contractual Issues

3. The Firm
3.1 The Firm : An Overview
a. Architectural Firms
b. The Small Practice
3.2 Firm Organization
a. Legal Organization/Firm Start Up
b. Organizational Choices
3.3 Firm Management
a. Planning and Positioning
b. Design Excellence and Quality Principles
c. ISO 9001:1994
d. Techniques for Managing Quality
3.4 Human Resources Management

4. The Project: An Introduction
4.1 The Project : An Overview
a. Range of Projects
b. Complex Projects
c. Simple Project
4.2 Project Initiation/Acquisition
a. The Decision to Build
b. Selection of the Design Team

c. Seeking the Project

PROPRAC3: Professional Practice 3: Global Practice In the 21st Century
Units: Lec: 3 Lab: 0 Pre-requisite: PROPRAC2

It focuses on the Architect, the Firm, the Project in the Global Arena. The course is designed to provide the students with an expanded view of the role of the architect in the built environment and the emerging transformation of the practice of architecture in a global setting.

1. Supplemental Services of the Architect
The expanded role of the architect in the built Environment
1.1 Pre Design Services
1.2 Allied Services
a. Architectural Interiors

b. Landscape Architecture
1.3 Planning Services
a. Site Planning
b. Subdivision Planning
c. Urban and Community Design
1.4 Environmental Planning Services
a. Urban Planning
b. Regional Planning
The scope of services, responsibilities and compensation packages involved in undertaking any of the supplemental services that an architect can engage in.
1.5 Post Construction Services
1.6 Construction Services
1.7 Construction Management

2. The Comprehensive Services of the Architect
(The compendious scope of the practice of architecture; the primacy of the architectural professional in the design of the built environment.)
2.1 The Comprehensive Service of the Architect

3. Office Project Management
3.1 Project Management
a. The Small Project
b. The Project Teams
c. Project Operations
d. Project Controls
3.2 Risk Management
a. Managing Project Risks and Opportunities
b. Project Disputes
c. Firm Insurance
3.3 Inter-Professional Relationships
a. Inter-Firm Alliances
b. Design Team Arrangements

4. The Business of Architecture
(Managing and marketing an office towards a global practice; financial management of such a practice.)
4.1 Marketing and Public Relations
a. Strategies
b. Public Relations
c. Project Sourcing
4.2 Financial Management
a. Financial Systems
b. Financial Planning
c. Financial Health
d. Acquiring Capital
e. Services and Compensation

5. Global Practice (Seminar Mode)
5.1 The Political Reality of Globalization and the Open Practice of the Architecture in the Philippines
a. Issues of Practice in the Global Context
b. APEC Architect Operations Manual
c. ASEAN Architects Operations Manual
d. MRAs (Mutual Recognition Agreements

ARPLAN1: Planning 1: Site Planning and Landscape Architecture
Units: Lec: 3 Lab: 0 Pre-requisite: SURVEYING & TROPICDES

The artistic and functional arrangement of buildings, open spaces, service areas, circulation and other external areas; techniques in the enhancement and design of exterior environments.

Course Outline:

1.0 Introduction to Site Planning and Landscape Architecture

2.0 Parameters of Site Selection and Analysis
3.0 Ecological Considerations of Site:
    3.1 Ground form
    3.2 Soil and geology
    3.3 Water Resources
    3.4 Microclimate
    3.5 Orientation
4.0 Social and Psychological Considerations
    4.1 Site Values/Social Impact
    4.2 Behavior Settings
    4.3 User requirements
    4.4 Cultural/Historical Significance
    4.5 Activity/Communication Linkages
    4.6 Pertinent Laws
    4.6.1 Local government ordinances
    4.6.2 Land use and zoning
    4.6.3 Others
5.0 Aesthetic and Physical Considerations
    5.1 Site Context
    5.2 Image/Symbols
    5.3 Sensuous Qualities
    5.4 Vocabulary of space
    5.4.1 Sensuous Forms
6.0 Movement Systems:
    6.1 Pedestrian
    6.2 Vehicular
    6.3 Road layouts
7.0 Site Development
8.0 Landscape Design
9.0 Concepts and Principles of Green Architecture as applied in site planning and landscape design
10.0 Cost Factors

ARPLAN2: Planning 2: Fundamentals of Urban Design & Community Architecture
Units: Lec: 3 Lab: 0 **Pre-requisite: ARPLAN1**

Spatial Order, Socio –Cultural expression in the design of the exterior environment in neighbourhoods, communities, towns & cities.

Course Outline:
1. Introduction to Urban Design & Community Planning:
    1.1 Contextualization of urban design & community architecture
2. Socio-Cultural Basis of Design of Communities
3. Historical Background:
    Aesthetics/ Community Architecture
4. Orientation & Identity in Community Architecture
5. Creating and Identifying the Sense of Place and Sense of Time
6. Signs and Symbols in Urban Design
7. Elements of Urban Design
8. The Image of the City
9. Responsive Environment
10. Space in Urban Design, Urban Aesthetics, Urban Pattern
11. Documenting the City: The system of design and process of presentation
12. Theories, Rules, and Process in Urban Design
13. Legal Considerations in Urban Design
14. Design Requirements of Specific Places in Towns & Cities.
    14.1 Cluster Housing and Planned Unit Development (PUD)
    14.2 Areas for Priority Development (APDs)/ Mixed Use Development and commercial centers
    14.3 Industrial parks and districts

14.4 Planning Educational Campuses
14.5 Government Center and the Plaza Complex
14.6 Coastal/Lakeside Community Planning
14.7 Resort Community Design
14.8 Parks and Open Spaces, Recreational Areas
15. Design as a Public Policy

ARPLAN3: Introduction to Urban and Regional Planning
Units: Lec: 3 Lab: 0 Pre-requisite: ARPLAN2

Concepts & emerging trends, methods & techniques in urban and regional planning; design of human settlements, and overview of land use in the planning of regions.

Course Outline:

1.0 Introduction: Humans in their ecological setting
2.0 Ekistics: The Science of Human Settlements
3.0 Location Theory: The Foundation of Planning
4.0 Definition of Planning
5.0 Historical Overview and Influences
6.0 Basic Planning Concepts
7.0 Overview of Urban and Regional Planning Theories and Issues:
Implications to Architectural Practice
8.0 The Comprehensive Planning Process
9.0 Planning of Particular Projects
9.1 Land Use Planning
9.2 Physical Planning
9.3 Transportation and Public Facilities
Planning (Infrastructure)
9.4 Environmental Planning (Agrarian, Forest, Coastal)
9.5 Tourism Planning
9.6 Historic Preservation
9.7 Fiscal Planning
10.0 Plans related to urban and regional planning
11.0 The State of Philippine Urban and Regional Planning
12.0 Institutions in Planning
13.0 Pertinent Planning Laws
(HLURB Guidelines, BP 957, NEDA, Local Government Units, MMDA, DILG, NHA, etc.)
14.0. Environmental Impact Assessment
15.0 Current State, Challenges and Issues

CADD-AR1: Computer–Aided Design & Drafting for Architecture 1
Units: Lec: 1 Studio: 2 Pre-requisites: AVISTECH3 & BILDTECH2

A basic introduction on computer and software programs useful in architectural practice. The course deals with aspects of architectural 2D & 3D drafting and design.

Course Outline:

1. Introduction to CADD.
2. Paper Space / Settings / Basic Commands.
3. Layering / Text / Dimensioning
4. Introduction to Industry- Standards
5. Setting up icons and commands in 3D.
6. Manipulating user coordinate system (UCS).
7. 3D Surfaces and Solids
8. Architectural components in 3D.
9. Computer-Aided perspective.

10. Rendering
11. Plotting

CADD-AR2: Computer–Aided Design & Drafting for Architecture 2/BIM
Units: Lec: 1 Studio: 2 **Pre-requisite: CADD-AR1**

An advanced computer-aided architectural rendering, modeling and animation using current software like Building Information Modelling.

Course Outline:
1. Introduction: Building Information Modeling (BIM)
2. User Interface
3. Conceptual Design using Massing
4. Designing with Components
5. Detailing
6. Rendering
7. Creating and Editing Walkthroughs
8. Importing and Linking Files

RESMETHAR: Research Methods for Architecture
Units: Lec: 5 Studio: 1 **Pre-requisite: ARDESIGN7, 4th Year Standing**
Co-requisite : ARDESIGN8

Quantitative and operational methods in architectural design research activity, requirement in use analysis

Course Outline:
1. Overview and introduction to the course
2. Research definitions, types, importance, etc.
3. Methodologies/tools and techniques in research:
    3.1 Research Design
    3.2 Sampling Design
    3.3 Data Collection Methods
    3.4 Data Processing and Tabulation
    3.5 Basic Statistics
    3.6 Data Analysis and interpretation
4. Preparation of a thesis proposal
    4.1 The research problems and objectives
    4.2 The research report : Writing the research proposal
    4.3 Consolidation and Final evaluation

TROPICDES: Tropical Design
Units: Lec: 2 Lab: 0 **Pre-requisite: ENVISCI**

Techniques for the design and planning of buildings within the technological and social constraints prevailing in the hot-humid tropics.

Course Outline:
1. Climatic Design Factors
2. Introduction to Environmental/ Climatic Design
3. History and Background
4. Types of Climates and Corresponding Characteristics
5. Climatic Data and Analysis
6. Comfort: Concepts, Indices and Analysis
7. Climatic Concepts, Elements and Factors

8. Microclimatic Considerations
9. Tropical Design Theories
10. Tropical Climates: Hot, Humid Climates
    10.1 Characteristics
    10.2 Design Problems
    10.3 Design Objectives
11. Tropical Climates: Hot, Dry Climates
    11.3 Characteristics
    11.2 Design Problems
    11.3 Design Objectives
12 General Concepts: Low Rise Design
    12.1 Design Objectives
    12.2 Design Strategies
    12.3 General Concepts in Ventilation
    12.4 Sun Protection
    12.5 The Site & Building Layout
    12.6 Space Planning
13. Building Elements
    13.1 Building Materials
14. Tropical Design Problem (Application)
    14.1 Discussion of Design Brief and Design Considerations
14.2 Design Theories Discussion

HOUSE: Housing
Units: Lec: 2 Lab: 0 **Pre-requisite: PROPRAC1**
Co-requisite : ARPLAN1

Socio-Cultural and Institutional Challenges for Effective Delivery of Housing in the Philippines

Course Outline:

1. Introduction to Housing
    1.1 Housing and the delivery process
    1.2 Physical configurations as outcomes of socio-economic systems
2. Philippine Perspective on Housing
    2.1 Current Housing Needs, Demand and Supply
3. Cultural Beliefs in Housing: Regional Characteristics
4. Housing Typologies
5. Theories on Housing
6. Comprehensive Approach to Housing
    6.1 Behavioral Aspects of Housing
    6.2 Economic and Social Challenges of Housing
    6.3 Organizational and Institutional Challenges for Effective Housing Delivery Systems
    6.4 Community Development Aspect of Housing
7. Market Analysis and Housing Finance
8. Technological Issues in Mass Housing (Housing Technology)
9. Housing Beyond the Shelter
10. The Evolution of Philippine Housing Policy and Institutions
11. Current Issues and Future Trends in Housing

ARORDES: Orientation to Architecture With Design Build
Units: Lec: 1 Studio: 1 **Pre-requisite: NONE**

The course covers orientation on the field of architecture. Students are exposed in an environment of creating, designing and building innovations for everyday human activities.

Course Outline:

1. Introduction to Architecture and The Role of an Architect
2. The Different Types of Dwelling Buildings
3. The House: The Basic Built Environment
4. Parts of the House
5. The Building Envelope
6. Structural Components of a House/ Building
7. Building Utilities: Plumbing Systems
8. Building Utilities: Electrical Systems and Components
9. Components of the Site
10. Components of the Neighborhood / Parts of a Community/ Village

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BMGMTAPP1: Business Management & Application for Architecture 1
Units: Lec: 3 Lab: 0 Pre-requisite: PROPRAC3

This course aims to educate future architects on how to manage a business from its start-up up to different means to maintain a sustainable business. It offers basic knowledge in managing finances, determining opportunities and strategizing ways to know your market.

BMGMTAPP2: Business Management & Application for Architecture 2
Units: Lec: 3 Lab: 0 Pre-requisite: BMGMTAPP1

This course prepares aspiring architects to be entrepreneurs. It also prepares the students on the requirements needed in starting a business and on how to file taxes and government-related documents in order to legibly run a business. With the proper and well-conceived strategies or procedures in building small to medium sized businesses related to the field of architecture, aspiring architects can help innovate the practice of architecture.

F. COMPREHENSIVE COURSE

COMPRE: Architecture Comprehensive Course
Units: Lec: 4 Lab: 0 Pre-requisite: Completion of all courses from 1st - 4th year level

The architecture comprehensive course provides an opportunity for each student to show evidence of his or her ability to synthesize information through learning acquired from the following subject areas: Theory of Architecture; History of Architecture; Architectural Interiors; Building Technology; Building Utilities; Urban Planning; Architectural Design; Engineering Sciences; and Professional Practice.

Course Outline:

Module 1:
Review covering the progression of courses in Theory of Architecture; History of Architecture; Architectural Interiors; Building Technology and Building Utilities.
Module 2:
Review covering the progression of courses in Urban Planning; Architectural Design 1 to Architectural Design 8
Module 3:
Review covering the progression of courses in Engineering Sciences and Professional Practice

G. ON-THE-JOB TRAINING

AROJT: Architecture On-the-Job Training
Units: 3 Pre-requisites: ARDESIGN8, BILDTECH5, BILDUTIL3, CADD-AR2

It focuses and reinforces the theories taught in school as students experience the industry practice through hands-on training**.**

H. SPECIALIZATION COURSES

COMMPLANDEV: Community Planning Development
Units: Lec: 3 Lab: 0 Pre-requisite: 5th Year Standing

Introduction to the study of the community, focusing on community organization, ecology and major social institutions and groups within the community services is discussed within the context of patterns of community interaction, processes and dynamics.

Course Outline:

1. Introduction to Community Development
2. Definition of a Community
3. Elements of Community Structure
4. Community Processes, Dynamics and Empowerment
5. Community Development Planning Approaches
6. Case Studies in Community Development
7. Laws Related to Community Planning Development
8. Issues in Community Development Planning in the Philippines
9. Skills in Community Planning Facilitation

CONSTMGMT: Construction Methods and Project Management
Units: Lec: 3 Lab: 0 Pre-requisite: SPCIALIZN2

This course is about methodologies and tools necessary for each aspect of construction project life-cycle broken into organizing, planning, monitoring, and controlling, as well as the theories upon which these are built. It focuses on cost and risk control, developing and applying policies and procedures as well as subcontractor management, purchasing and project financing.

Course Outline:

Introduction to Construction Management

1. Pre-Construction Planning - Getting Started
2. Project organization
    - 2.1 Design Structure Matrix
3. Developing the Project Plan
    - 3.1 Work Breakdown Structure

3.2 Project Budget and Cost Breakdown Structure

- 3.3 Scheduling and Risk Analysis
    - 3.3.1 The Critical Path Method (CPM)
    - 3.3.2 The Precedence Diagramming Method (PDM)
    - 3.3.3 The Program Evaluation and Review Technique (PERT)
    - 3.3.4 The Graphical Evaluation and Review Technique (GERT)
    - 3.3.5 Queue - Graphical Evaluation and Review Technique (GERT)
    - 3.3.6 Simulation Language for Alternative Modelling (SLAM)
    - 3.3.7 Dynamic Planning and Control Methodology (DPM)

3.3.8 Critical Chain Planning
3.3.9 Resource Loading
4. Planning for Production

FACBUILDADMI: Facilities/ Building Administration

Units: Lec: 3 Lab: 0 **Pre-requisite: SPCIALIZN2**

It focuses on health and safety in buildings, building management and maintenance, design parameters for accessible, healthful and safe architectural spaces and environment.

GEOINFOSYS: Graphic Information System

Units: Lec: 2 Studio: 1 **Pre-requisite: SPCIALIZN2**

This focuses on the information system that is used to input, store, retrieve, manipulate, analyze and output geographically referenced data or geospatial data, in order to support decision making for planning and management of land use, natural resources, environment, transportation, urban facilities, and other administrative records.

ARPROJMGMT: Project Management

Units: Lec: 3 Lab: 0 **Pre-requisite: SPCIALIZN2**

This is an introduction to the integrated design management to gain specialised knowledge related to the coordination of the design process and the maximisation of client satisfaction. The blurring of boundaries between the built environment disciplines is occurring as a response to client demand for more complex designs involving specialist knowledge. This is an international trend, underpinned by the need to deliver projects that ultimately reflect long life, loose fit and low energy. It also involves design optimisation, process re-engineering and value management within the confines of economic, social and environmental criteria.

ARHERITAGE: Architectural Heritage Conservation

Units: Lec: 2 Studio: 1 **Pre-requisite: 5th Year Standing**

This course provides an introduction to the practical and theoretical aspects of working constructively with heritage matters in the built environment. It covers traditional building materials and techniques; common problems and how to deal with them; the various organizations and authorities involved in administering heritage matters.

URBANDESGN: Urban Design

Units: Lec: 2 Studio: 1 **Pre-requisite: 5th Year Standing**

Design exercises on complex design problems in real urban settings.

Course Outline:

1.0 Introduction to Urban Design
2.0 Urban Design Concepts
3.0 Urban Design Process and Techniques
4.0 Urban design documentation workshop: the system of design & process of presentation
5.0 Pertinent Laws
6.0 Application of Concepts and Techniques to an Urban Design

Problem Situation
6.1 Design Brief and Design Considerations
6.2 Design Theories Discussion

II. NON-TECHNICAL COURSES

2MATHMWORLD: Mathematics in the Modern World
Units: Lec: 3 Lab: 0 **Pre-requisite: None**

This course deals with nature of mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. The course begins with an introduction to the nature of mathematics as an exploration of patterns (in nature and the environment) and as an application of inductive and deductive reasoning. By exploring these topics, students are encouraged to go beyond the typical understanding of mathematics as merely a set of formulas but as a source of aesthetics in patterns of nature, for example, and a rich language in itself (and of science) governed by logic and reasoning. The course then proceeds to survey ways in which mathematics provides a tool for understanding and dealing with various aspects of present-day living, such as managing personal finances, making social choices, appreciating geometric designs, understanding codes used in data transmission and security, and dividing limited resources fairly. These aspects will provide opportunities for actually doing mathematics in a broad range of exercises that bring out the various dimensions of mathematics as a way of knowing, and test the students' understanding and capacity. (CMO No, 20, series of 2013).

Course Outline:

Mathematics in our World
- A. Patterns and Numbers in Nature and the World
- B. Fibonacci Sequence and the Golden Ratio

Mathematics Language and Symbols
- A. Characteristics of Mathematical Language
- B. Mathematical Symbols and Operations
- C. Some Fundamentals of Logic

Problem Solving and Reasoning
- A. Inductive and Deductive Reasoning
- B. Problem Solving Strategies

Data Management
- A. Applications of Descriptive Statistics
- B. Hypothesis Testing

Mathematics of Graphs
- A. Euler Paths and Circuits
- B. Hamiltonian Paths and Circuits
- C. Graph Coloring
- D. Trees

4FYE1: Big History: Big Bang to the Future
Units: Lec: 3 Lab: 0 **Pre-requisite: None**

Big History is an interdisciplinary course that deals with the students' journey through time and space with the Catholic intellectual tradition as an integral component of the course. It describes Big History in the context of God's continuing work of creation. It discusses the first moments of the universe and the formation of stars and planets; the early life on earth and the development of human civilization and consciousness. Included in the course is the rise of humankind until the peering over the threshold of the present and into future.

Course Outline:

Introduction to Big History

Threshold 1
- Origin stories of different civilizations or cultures
- The Big Bang Theory

Threshold 2
- Matter and Energy
- Gravity, Nuclear Fusion, and the role of
- Hydrogen
- The Life and Death of a Star

Threshold 3
- (New Chemical Elements)
- What did Stars give us?
- The elements and our everyday life

Threshold 4
- (Earth and the Solar System)
- The formation process of Solar system and Earth
- The Earth's Atmosphere and Geology

Threshold 5
- "Life on Earth"
- Theories on the Origins of Life
- Theory of Natural Selection
- Charles Darwin Theory of evolution
- (Natural selection and Survival of the fittest)

Threshold 6
- Early Humans: Collective Learning"
- The evolution of the hominines
- The Appearance of the Homo Sapiens
- The process of collective learning
- The civilization during the Paleolithic period.

Crowdsourcing: COVID 19 – A Goldilocks Condition

9STS: Science, Technology and Society
Units: Lec: 3 Lab: 0 **Pre-requisite: None**

The course deals with interactions between science and technology and social, cultural, political, and economic contexts that shape and are shaped by them. CMO No. 20, series of 2013). This interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement. This course includes mandatory topics on climate change and environmental awareness.

Course Outline:
- Historical antecedents in which social considerations changed the course of science and technology
- In the World: Ancient, Middle and Modern Ages In the Philippines
- Intellectual revolutions that defined society
- Science and technology and nation building
- The Philippine government S&T agenda
- Major development programs and personalities in S&T in the Philippines
- Science education in the Philippines
- The human person flouring in terms of science and technology
- Technology as a way of revealing
- Human flourishing
- Human Flourishing in Progress and De-development

- The Good Life
- When technology and humanity cross
- Why the future does not need us?
- Biodiversity and the Healthy
- Society Genetically Modified Organisms: Science, Health, and Politics
- The Nano World
- Climate Change and the Energy Crisis
- Environmental Awareness

THEOLOGY 101: Theological Foundations: Judeo-Christian Tradition and Sacred Scriptures

Units: Lec: 3 Lab: 0 **Pre-requisite None**

This foundational course in theology is designed to equip the students with the basic knowledge in the study of Judeo-Christian Tradition and Sacred Scriptures based on the Second Vatican Council, which are fundamental foundations in the Catholic Faith. The subject is geared towards a deeper understanding and appreciation of Catholic Faith that is socially and contemporarily relevant.

Course Outline:

Module 1 Theme: My Second Home: HAU and My Faith

I. Holy Angel University

- The vision, mission goals, and objectives of Holy Angel University
- Core Values and Graduate Attributes
- Angelite Bible Sharing (ABS) Rationale and Guidelines
- Orientation on First Friday Eucharistic celebration via FB live.

II. Theology and doing Theology

Lesson 1. What is Theology and Doing Theology?

A. Neo-Scholastic Catholicism

B. The Impact of the Second Vatican Council

1. The double thrust of Vatican II

2. Four pivotal documents of Vatican II and the importance of Dei Verbum

C. Rediscovery of experience in theology

D. Basic realities and processes in doing theology

E. Two-poles of Theologizing: The Judeo-Christian Tradition and Contemporary Human Experience

1. The Judeo-Christian Tradition

a. Tradition

b. Scriptures

2. Contemporary Human Experience

3. Mutual interaction of the Judeo-Christian Tradition and Contemporary Human Experience

F. Filipino theologizing and indigenous categories

1. Experience, culture and language

2. Mabathalang aral as Filipino theology

3. Characteristics of Mabathalang Pag-aaral

Lesson 2: Falling and Staying in Love: An Imagery for our Experience of God

I. Falling and staying in love as constant elements in the experience of love

II. The Filipino concept of “kapwa” in the language of love

III. Falling and staying in love as imagery of faith

Module 2 Theme: Faith and Revelation

Lesson 3: God’s Pagpapadama: What makes us Fall and Stay in Love with God

I. The centrality of love in Christian faith

II. God as Kagadahang-loob in Jesus Christ

Lesson 4: The Foundation of Faith: Pagpapadama ng Diyos ng Kanyang kagandahang-loob as Revelation

I. Pagpapadama: The intuitively affective-cognitive way of experience
II. Re-interpreting "revelation" in the light of pagpapadama and kagandhang-loob
A. God's pagpapadama is relational
B. God's pagpapadama is life-giving
1. Zoe as ginhawa
2. Two perspectives of Zoe or Salvation
a. Redemption-centered
b. Creation-centered
A. The question of God's love and human suffering
1. God's pagpapadama is unconditional and universal
2. God's pagpapadama transcends human limitations
3. God's pagpapadama is historical
a. In sacred history
b. God's pagpapadama as the history of salvation

Module 3 Theme: Witnessing Faith

Lesson 5: Scripture as Primary Witness to Human Experience of God

I. The Word of God as the words of God
II. The Word of God as God's Pagpapadama
III. Authority of the Bible
IV. Reading the Bible
A. Reading a "classic" as a "conversation"
B. On being mindful of context
V. Relationship between Bible and Tradition

Lesson 6: Witnesses to the Way of Jesus' Faith

I. Exemplars of Faith in Christian Tradition
A. Mary, the mother of Jesus
B. The Samaritan Woman at the Well
C. Mary of Magdala
D. Paul of Tarsus
E. Francis of Assisi
II. Responding to Global Problems
A. Poverty alleviation
B. Gender equality and women empowerment
C. Justice and peace
D. Care for Mother Earth

4FYE2 Big History: Through the Lens of Big History
Units: Lec: 3 Lab: 0 **Pre-requisite: 4FYE1**

This is an interdisciplinary course that explores the theories, concepts and approaches of various disciplines through the lens of Big History. Students grasp an appreciation of the disciplines utilizing Big History as a framework.

Course Outline:

- The Universe: Its Intricate and Aesthetic Value
- Threshold 7 Agriculture and Globalization: Interplay
- Agriculture and Globalization
- Threshold 8 Modern Revolution
- Philosophy of Design and Technology: Redesigning Humankind
- Education and Communication
- Threshold 9 The Future and the Future Angelite
- Spirituality and the Social Teachings of the Church

THEOLOGY 102: Special Issues in Catholic Theology
Units: Lec: 3 Lab: 0 **Pre-requisite: THEOLOGY101**

This course is designed to address special issues that confront college students today in relation to their faith as Christians in discerning the Signs of the Times. It explores variety of moral issues that impact the individual, the family, and the community. The course enables the students to clarify their values and eventually pursue objective moral values amidst the issues that they meet head-on.

Course Outline:

MODULE 1: PUSPOS NA KAGANDAHANG-LOOB NG DIOS: The Standard of Morality
Lesson 1: Sensitivity to the Beautiful as Filipino Moral Sensibility.
1. Ganda as an understanding of moral goodness
2. Pagsasaloob sa kagandahang-loob: Embracing moral goodness
3. Pangangatawan ng kagandahang-loob: Commitment to be moral

Lesson 2: Jesus: Ang lubos na kaaya-ayang mukha ng Kagandahang loob.
1. Jesus' Prayerfulness as a Mindfulness of God's Kagandahang-loob
2. Jesus' Servant-Leadership as a Ministry of Kagandahang-loob

Lesson 3: Living Beautifully: Responding to the Call of the Kingdom.
1. "Pangangatawan" as Discipleship
2. Pamamayani ng Kagandahang-loob: Our common vocation

MODULE 2: KAGANDAHANG LOOB SA KAPWA: Our Invitation to be Authentic Human
Lesson 1: Eight Dimensions of the Human Person according to Gaudium et Spes
1. Possess Freedom (Kusang-loob)
2. Conscience (makataong-loob)
3. Corporeal being (sumasa-katawan)
4. Material being (sumasa-kalikasan)
5. Relational –

I-thou (nakikipag-kapwa)
6. Relational-social being (sumasa-lipunan)
7. Historical being (sumasa-kasaysayan)
8. Fundamentally equal but unique (Pantay-pantay subalit may pagkakatangi)

Lesson 2: Moral Decision Making (based from R. Gula)
1. Deontological Method
2. Teleological Method
3. Relational-Responsibility Method

MODULE 3: DISCERNING KAGANDAHANG-LOOB NG DIOS THROUGH THE SIGNS OF TIMES
Lesson 1: The Beauty and Value of Life: Its Challenges & Issues
Lesson 2: The Beauty and Value of Human Relationships: Its Challenges & Issues
Lesson 3: The Beauty and Value of Environment: Its Challenges & Issues
Organizing and Production of the Group Learning Portfolio (Green Advocacy Project)

1PURCOMM Purposive Communication
Units: Lec: 3 Lab: 0 **Pre-requisite: None**

The five skills of communication (listening, speaking, reading, writing and viewing) are studied and simulated in advanced academic settings. The purpose of these combined activities is to enable students to practice strategies of communication with a clear purpose and audience in mind, guided by the criteria of effective communication and the appropriate language. Further, the description highlights conversing intelligently, reporting on group work and/or assignments, writing and delivering a formal speech, writing minutes of the meetings and similar documents, preparing a research or technical paper, and making audio-visual or web-based presentations. At the end of the course, students should be able to listen, comprehend, critique and respond to live or recorded conversations, speak in public with confidence, explain extended texts in their own words using examples and other aids to bolster their explanation, while texts

ranging from a simple report to a full-length technical or research paper and prepare an audio visual or web-based presentation on an assigned topic.

Course Outline:

- Communication: Nature, Importance and Process (A Revisit)
- Levels and Models of Communication
- Ethical Communication
- Ethical Principles
- Purposive Engagements in Written Communication
  - Theories of Writing
  - Process of Writing
  - Styles and Registers of Written Communication
- Language Strategies in Writing
- Business Writing and Impression Management
- Meaningful Experiences in Oral Communication: Public Speaking
- Effective Introductory and Concluding Techniques
- Effective Use of the Voice
- Varieties and Registers of Spoken English

4READPHILHIS: Readings in Philippine History
Units: Lec: 3 Lab: 0 Pre-requisite: None

The course analyses Philippine history from multiple perspectives through the lens of selected primary sources coming from various disciplines and of different genres. Students are given opportunities to analyse the author's background and main arguments, compare different points of view, identity biases and examine the evidences presented in the document. The discussions will tackle traditional topics in history and other interdisciplinary themes that will deepen and broaden their understanding of Philippine political, economic, cultural, social, scientific and religious history. Priority is given to primary materials that could help students develop their analytical and communication skills. The end goal is to develop the historical and critical consciousness of the students so that they will become versatile, articulate broad-minded, morally upright and responsible citizens.

Course Outline:

- Meaning and relevance of history.
- Difference between historical fact or myth
- Content and Contextual analysis of selected primary sources; identification of historical importance of the text; and examination of the author's main argument and point of view.
- Cry of Revolution
  - Alvarez version
  - Valenzuela version
- Masangkay version
- Tejeros Convention
  - Artemeo Ricarte's Account
  - Andres Bonifacio's Account
  - Santiago's Account
- Independence Documents
- Act of Proclamation of Independence of the Filipino People
- Inaugural Address of President Roxas on the Independence of the Philippines (July 4,1946)
- Speeches of Philippine Presidents in United States
- Final Period - Political, Cultural and Socio-economic issues in Philippine History
- Philippine Constitution
- Indigenous Peoples
- Critical evaluation and promotion of local and oral history, museums, historical shrines, cultural performances, indigenous practices, religious rites and rituals, etc.
- Discussion on Kapampangan History and Culture

THEOLOGY 103: Christian Spirituality in the Contemporary World
Units: Lec: 3 Lab: 0 **Pre-requisite: THEOLOGY102**

This course engages students to reflect on their personal and religious experiences to discern the call of transformation and integration vis-à-vis Christian tradition and world realities through the development of the basic skill of theological reflection. With Jesus Christ as model, the students are invited to explore the relevance of their personal spiritual journey and reflect deeply on the ways on how they can live a socially relevant Christian spiritual life.

Course Outline:

Module 1
Theme: Ugnayan sa Diyos: Christian Spirituality is a journey towards the fullness of life with God
Module 2
Theme: Ugnayan sa Kapwa: Christian towards a Distinct Spirituality
Module 3
Theme: Ugnayan sa Diyos at sa kapwa: Avenues to live one's vocation to holiness
Lesson 4: Culminating Activity
@HOME WITH AN ANGEL
Home-based prayer service, Eucharist, rosary and other devotional activities.

4ETHICS: Ethics
Units: Lec: 3 Lab: 0 **Pre-requisite: None**

Ethics deals with principles of ethical behavior in modem society at the level of the person, society, and in interaction with the environment and other shared resources. (CMO 20 s 2013). Morality pertains to the standards of right and wrong that an individual originally picks up from the community. The course discusses the context and principles of ethical behavior in modern society at the level of individual, society, and in interaction with the environment and other shared resources. The course also teaches students to make moral decisions by using dominant moral frameworks and by applying a seven-step moral reasoning model to analyze and solve moral dilemmas. The course is organized according to the three (3) main elements of the moral experience: (a) agent, including context — cultural, communal, and environmental; (b) the act, and (c) reason or framework (for the act).

Course Outline:

Difference between moral and non-moral standards
1. What are moral dilemmas?
2. The three levels of moral dilemmas:
individual; organizational (i.e., business, medical, and public sector); and intercultural(i.e., network of institutions and operative theoretical paradigms, e.g., universal health care)
3. Freedom as Foundation for Moral Acts
    Culture and its role in moral behavior
    Cultural Relativism
    The Filipino Way
    Stages of Moral Development
Feelings and moral decision making
    -Feelings as instinctive and trained response to moral dilemmas
    Reason and Impartiality as requirements for ethics
The 7-Step Moral Reasoning Model
Moral Theories as frames of moral experiences
    Virtue ethics
    Aristotle
    -Telos
    -Virtue as habit

- Happiness as virtue

Kant's Ethical Theory
- -Good will
- -Categorical Imperative

Kinds of rights
- -Legal
- -Moral

Mill's Utilitarianism
- -Greatest Happiness Principle

Justice and Fairness
- -The nature of the theory
- -Distributive justice
- -Egalitarian
- -Capitalist
- -Socialist

4ARTAPP: Art Appreciation
Units: Lec: 3 Lab: 0 Pre-requisite: None

Art Appreciation is a three-unit course that develops students' ability to appreciate, analyse, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical and social relevance of the arts in order to hone students' ability to articulate their understanding of the arts. The course also develops students' competency in researching and curating art as well as conceptualizing, mounting and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and rootedness in Filipino culture.

Course Outline:

Module 1: Introduction to Art Appreciation
Lesson 1: The Meaning, Importance, and Assumptions of Art.
- *What is Art?*
- *Why Art Matters?*
- *What is Art made for?*
- *How is Art Classified*

Lesson 2. Subject and Content of Art
Lesson 3. Artists and Artisans; Medium & Technique
Lesson 4. The Elements and Principles of Art
Module 2: Art Through the Ages
Lesson 5: Prehistoric art to Early Civilizations
- *Prehistoric Period*
- *Ancient Period*

Lesson 6: Medieval and Renaissance Art
Lesson 7. Modern Art Movements
Lesson 8. Contemporary Art
Module 3. Living with Art
Lesson 9. Soul-Making in Art
Lesson 10. Appropriation Art
Lesson 11. Philippine Arts.

4CONWORLD: The Contemporary World
Units: Lec: 3 Lab: 0 Pre-requisite: None

This course introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological and other

transformations that have created an increasing awareness of the interconnectedness of peoples and places around the globe. To this end, the course provides an overview of various debates in global governance, development and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility. This course includes mandatory topics on population education in the context of population and demography.

Course Outline:

- The Structures of Globalization
- A History of Global Politics: Creating an International Order
- The United Nations and Contemporary Global Governance
- The Globalization of Religion
- Media and Globalization
- The Global City
- Global Demography
- Global Migration
- Environmental Crisis and Sustainable Development
- A Holistic Understanding of Peace and Violence
- Global Citizenship and the Global Filipino

4UNDERSELF: Understanding the Self

Units: Lec: 3 Lab: 0 **Pre-requisite: None**

This course is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic—contextualizing matters discussed in the classroom and in the everyday experiences of students—making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

Course Outline:

- Becoming a Better Student
- Setting Goals for Success
- Taking Charge of One's Health
- Philosophical Perspective of the Self
- The Self from the Sociological and Anthropological Perspective
- The Self from the Psychological Perspective
- The Self in Western and Eastern Thoughts
- Physical, Material, and Digital Aspect of Self
- Sexual Aspect of Self
- Spiritual Aspect of Self
- Political Aspect of Self

4RIZAL: Life and Works of Rizal

Units: Lec: 3 Lab: 0 **Pre-requisite: None**

As mandated by Republic Act 1425, this course covers the life and works of the country's national hero, Jose Rizal. Among the topics covered are Rizal's biography and his writing, particularly the novels NoIi Me Tangere and El Filibusterismo, some of his essays, and various correspondences

Course Outline:

- Republic act 1425
- Significance of Rizal Course: Rizal as a National Hero
- Philippine condition during Rizal's time
- Childhood of Rizal

- Education in Binan,Ateneo and UST
- Jose Rizal and the invention of a national literature
- Morga's Successos delas Islas Filipinas
- Rizal's personal struggle on marriage and relationship
- Rizal's life in Europe
- Noli Me Tangere
- El Felibusterismo
- Rizal's Home coming
- Rizal's Exile in Dapitan
- Rizal's Trial and Execution
- Retraction

1LIT12: Great Books

Units: Lec: 3 Lab: 0 **Pre-requisite: None**

The course explores and studies the great ideas contained in the original works by the greatest literary writers, chronologically, beginning with the works of the Ancient Greeks, which are seminal to classical and Western civilization. It also equips students with the timeless insights of contemporary writers, insights that are at the heart of liberal education. The students will enhance their communication skills by reading, appreciating and critiquing literary works. Moreover, they will understand deeper human behavior by delving into the psyche of writers and characters.

Course Outline:

- Introduction to the Great Books course
- Introduction to Literary Criticism
- Aesop's Fables
- Antigone by Sophocles
- He Is More Than A Hero by Sappho
- The Garden of Stubborn Cats by Italo Calvino
- Shakespeare's Sister by Virginia Woolf
- The Necklace by Guy de Maupassant
- The Two Brothers by Leo Tolstoy
- There is Another Sky by Emily Dickinson
- Telephone Conversation by Wole Soyinka
- The Cask of Amontillado by Edgar Allan Poe
- If You Forget Me by Pablo Neruda
- The Book of Sand by Jose Luis Borges
- I Am A Filipino by Carlos P. Romulo

7PE1: Movement Enhancement
Units: Lec: 2 Lab: 0 **Pre-requisite: None**
This course provides training in different movement patterns and core engagement in conjunction with principles of healthy eating and a physically active life. Students will be able to adapt and transfer the movement competency in different contexts (i.e. use of training equipment)

7PE 2: Fitness Exercises
Units: Lec: 2 Lab: 0 **Pre-requisite: 7PE1**
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessments for the development of various fitness components.

7PE 3: Physical Activities towards Health and Fitness 1
Units: Lec: 2 Lab: 0 **Pre-requisite: 7PE2**
This course will provide physical activities for the purpose of optimizing health and fitness. Students will choose from a menu of course offerings in Dance, Sports and Outdoor an Adventure Activities

7PE 4: Physical Activities towards Health and Fitness 2
Units: Lec: 2 Lab: 0 **Pre-requisite: 7PE3**
This course will provide physical activities for the purpose of optimizing health and fitness. Students will choose from a menu of course offerings in Dance, Sports and Outdoor and Adventure Activities

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CWTS1: Civic Welfare Training Services 1
Units: Lec: 0 Lab: 3 **Pre-requisite: None**

Civic Welfare Training Service (CWTS1) is a component of the university NSTP1 Program that aim to prepare students for NSTP2 or application phase by providing them the basic concepts and theories needed for doing community work. This involves introduction on concepts on self in relation to community and basics of community development theories, practices and processes.

CWTS2: Civic Welfare Training Services 2
Units: Lec: 0 Lab: 3 **Pre-requisite: None**

The program involves the implementation of identified project based on community diagnosis such as mural painting, set up library, advocacy/seminar on health, child rights, waste management, disaster management and other issues, facility improvement, sport among others.