ISSR
អ៊ីនធើណេសិនណល ស្គូល អហ្វ សៀមរាប
International School of Siem Reap

High School Curriculum Plan 2017 - 18
Year 12 / Term #1

Art and Design

Project based coursework
Students choose an area of study of their preference to complete within the whole term. It can be either two- or three- dimensional and be defined as "anything produced from conception to the completion of the final item"

Assessment
The work will be graded after the completion of the coursework.

Biology

Topics
Unit 1: Biological molecules
- Water
- Carbohydrates
- Lipids
- Proteins
- Biochemical tests
- Nucleic acids
- Enzymes

Unit 2: Cells as the basic unit of life
- Cells and microscopy
- Size and magnification calculations
- Plant and animal cells
- Bacteria
- Prokaryotic vs. eukaryotic cell structure
- Viruses
- Cell membrane structure and function
- Transport across membranes

Texts
Cambridge International AS and A Level; Biology Coursebook, Fourth Edition by Mary Jones, et al.

Chemistry

Topics
Unit 1: Particles
- Atoms and sub-atomic particles
- Electrons and mass
- Moles

Unit 2: Bonding and structure
- Types of bonds
- Structure
- Effects of bonds

Unit 3: Controlling reactions
- Energy
- Kinetics
- Equilibria

Texts
Cambridge International AS and A Level; Chemistry Coursebook, Second Edition L. Ryan and R. Norris.

Critical Thinking & Work Related Learning

Critical Thinking
- Understand the links between ideas
- Determine the importance and relevance of arguments and ideas
- Recognise, build and appraise arguments
- Identify inconsistencies and errors in reasoning
- Approach problems in a consistent and systematic way

Work Related Learning
- Visual Audio and Kinaesthetic Learning
- Skills and personal characteristics
- Interview skills
- Preparing a CV
- Writing a letter of application
- Employment research; working abroad

Design Technology

Texts
1. http://mr-dt.com
2. http://technologystudent.com
3. http://mydtwebsite.co.uk

Topics / Key Concepts:
Year 12 students are beginning the year with an interior design project based on relocation and ethnic taste and diversity. Then they will be focusing on the theory aspect of the Design Technology AS level and the topic for their portfolio project assessment

Assessment procedure
Formative assessment of each stage of the project components and summative assessment of final project outcome in line with IGCSE standards and external assessment via Cambridge International exams.

English

Text:
Cambridge International AS and A Level English Language – Mike Gould and Marilyn Rankin

Topics / Key concepts:

- Unit 1: Reading a non-fiction text / Analysing a non-fiction text
- Unit 2: Writing non-fiction
- Unit 3: Imaginative writing
- Unit 4: Text and discourse analysis
- Unit 5: Spoken language and social groups
- Unit 6: English as a global language
- Unit 7: Child language Acquisition

Assessment
The students will frequently undergo short formative assessments in speaking, listening, reading and writing throughout the term.

Computer Science

Texts
Teach-ict.com

Computer Science AS level students will be studying:
- Computer Architecture
- Types of Processor
- Input Output and Storage
- Network Characteristics

They will also begin a basic introduction to programming in Python

Assessment Procedure
Besides continuous self-assessment, the students will take an AS practice test after the completion of each major topic. At the end of the course are externally assessed Cambridge theory and practical exams.

Mathematics

Text
1. Advanced Level Mathematics, Pure Mathematics 1, Cambridge University Press
2. Advanced Level Mathematics: Mechanics 1, Cambridge University Press

Topics / Key Concepts
Pure Mathematics
- Algebra
- Coordinate geometry
- Sequence and series
- Functions

Mechanics
- Velocity and acceleration
- Force and motion
- Vertical motion
- Resolving forces
- Friction
- Motion due to gravity

Assessment procedure
The students will sit weekly quizzes and monthly unit tests.

Physics

- Unit 1: Physical quantities and units
- Unit 2: Measurement techniques
- Unit 3: Kinematics
- Unit 4: Dynamics
- Unit 5: Forces, density and pressure
- Unit 6: Work, energy, power

Texts
Cambridge International AS and A Level; Physics Coursebook, Second Edition by David Sang, et al.

Psychology

Topics
- Research Methods
- Experiments
- Self-reports
- Case Studies
- Observations
- Correlations
- Research Processes
- Sampling of Participants
- Data and data analysis
- Ethical considerations
- Evaluating research: methodological issues

Biological Approach
X3 Core Studies

Cognitive Approach
X3 Core Studies

Texts
Cambridge International AS and A Level Psychology Coursebook by Russel, Lintern, Gauntlett and Davies
Psychology for Cambridge International AS and A Level Revision Guide (2nd Edition) by Craig Roberts