## Scoil Dara

# Senior Cycle Option Subjects

Presentation to Students 27/01/2020

## Agricultural Science

# Agricultural Science Some topics you will study:-

- Soils
- The structure and function of plants
- Farm crops cereal, roots and grassland
- Structure and function of the animal body
- The cow, the sheep, poultry and the pig
- **Genetics**

#### **Assessment**

The examination in Ag. Science consist of an <u>exam</u> (75%) and <u>practical work</u> (project +experiment copy + oral) (25%)

# Things to note Its not just for farmers

- But you must have access to a farm
- You must have access to a computer and printer at home
- Must have an interest in the subject
- Must have an interest in experiment and project work
- Communication skills must be good for oral exam
- There is a good choice on the exam so this makes good grades quite achievable

# Subjects Agricultural Science links with:

- Biology
- -Geography
- **.**Home Ecomonics

Note:

Agricultural Science does count as a Science subject to meet Entry Requirements.

The value of agriculture-related degrees cannot be underestimated. No other industry can <u>feed the world's population</u> that is growing at a rate where we cannot produce enough food for the number of people. According to research our <u>food production must</u> double by 2050.

- Farm workers
- Food Scientist
- .Vet
- **Horticulturists**
- Agricultural Equipment Operators
- -Agribusiness Management
- **Botanist**
- **.**Conservationist
- **Landscaper**
- Forester

Endangered Species Riologist the list is and estill

# Technology

#### Leaving Certificate technology

Leaving Certificate technology provides students in the senior cycle of post-primary education with knowledge and skills associated with technology education. Students apply their knowledge and skills creatively in a design-based approach to solving everyday technological problems, mindful of the impact on natural resources and on the environment. The syllabus comprises core areas of study, which are mandatory, and five optional areas of study, from which students choose two.

Leaving Certificate Technology is assessed at two levels, Ordinary level and Higher level, by means of an examination paper and a student project.

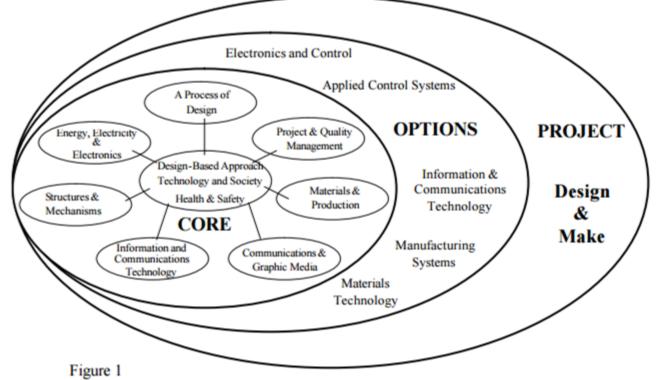
#### Sample Project

•Fossil fuels provide approximately 95% of the world's total energy demands. However at the current rate of use there may be severe shortages in the next 10-15 years. This may render our current lifestyles unsustainable. With reference to the theme above design and

#### The structure of the syllabus

The syllabus is laid out in two main sections, core and options where all students must take the core and any two from five options. In choosing the option, the expertise and interest of the teacher will be a major influence. Whilst it is likely that all pupils in a given class will follow the same two options, it does not preclude different pupils taking different combinations of options.

A design-based approach is central to the study of the subject Technology where cognisance is taken of health and safety issues and the impact of technology on the environment.



#### Assessment:

The syllabus will be assessed in terms of its stated objectives and learning outcomes at each of two levels, Ordinary and Higher, by means of a terminal examination paper and a project. The assessment weightings at both levels are given in the table below.

#### Assessment components

Component	Sub-component	HL	OL
Examination Paper	Section A: Core	30%	30%
[50%]	Section B: Options	20%	20%
Project	Artefact	25%	30%
[50%]	Report Folder/Portfolio	25%	20%

Terminal examination paper There will be one examination paper at Ordinary level (2 hours) and one at Higher level (2 .5hours). At each level, the paper will be presented in two sections, as indicated in the table above. Since the Core is mandatory, students will be assessed on all main elements of the Core in Section A of the examination paper. Section B will cater for the five Options and students will be required to answer questions related to two of these. Throughout the examination paper, in addition to factual recall, candidates will be expected to show understanding of the subject matter involved and to apply the knowledge and skills they have developed over the two years of the course.

# Design &

# Communications Graphics (DCG)

# DESIGN AND COMMUNICATION GRAPHICS (DCG)

• This subject replaces Technical Drawing.

#### Course Content

- •The class takes place in a designated DCG room. All course work is drawn by the student using drawing instruments and freehand sketching.
- •Over the 2 years the student will compile a portfolio of drawings covering a broad variety of topics from solids in contact to roof geometry. Content includes: Plane and Solid Geometry, Building Applications, Engineering Applications and a Compulsory Computer Aided Design Project
- •Neatness and attention to detail are desirable attributes for any student wishing to succeed at this subject.

#### What career options are there?

- •DCG is a core element of many 3rd level options i.e. Engineering, Construction, Industrial Design and Architecture. Knowledge of DCG will greatly enhance a student's ability to succeed in any 3rd level engineering based programmes.
- •All apprenticeships include the study and completion of detailed technical drawings. Again the studying of DCG to leaving cert standard is a distinct advantage.
- •Is it difficult?
- •The subject requires good levels of concentration and commitment. Traditionally it has been viewed as difficult, but the Dept. Of Education statistics prove otherwise.
- •Exam: 3 hours written exam 60%
- •Research and Design Project in 6th Year 40%
- •Free software (CAD) is available for use for the duration of the Leaving Certificate Course.
- •Careers: Useful for careers in engineering, construction, interior design, architecture and all apprenticeships.

# Engineering

## **Prerequisite**

**Metalwork** 

.Technology

.Technical Graphics

.Woodwork

#### Why choose Engineering?

- A practical subject which is student centred
- 3 separate elements to assessment
- Assesses a number types of intelligence

#### **Future Careers**

- All types of Engineering (Mechanical, Civil, Electrical etc)
- Architecture

Draughtsman

 Various different trades (Plumber, Electrician, Welder, Mechanic etc)





#### **Subject Content**

#### Part I - Construction Theory and Drawing

General principles

Substructure

Superstructure

Internal construction

Services and external works

Heat and thermal effects in buildings

Illumination in buildings

Sound in buildings

Part II - Practical Skills

Tools

Processes

Part III - Course Work and Projects

Workshop/laboratory experiments

Student projects



#### Skills and Competence

A minimum level of skill development, process experience and material processing are necessary before a student can tackle worthwhile tasks with safety and confidence. Completion of the Junior Cert M.T. Wood course is a significant advantage. Students will be instructed in the safe use of all necessary tools, machines and practices to enable them to produce a varying degree of projects.



#### **Projects**

Projects consist of the design and manufacture of a project and makes up 25% of the total grade. Projects are chosen by the student and should reflect their knowledge of an area of the course and their practical skills. A design folio of drawings, sketches, research and self evaluation must accompany the project. Students must also complete 3 experiments related to the course. A practical test is also given and makes up 25% of the total grade.



#### Assessment

Construction Studies is assessed at both Ordinary level and Higher level by means of a terminal examination paper, a practical test and a student project.

- •Final Examination 50%
- •Practical Skills Test 25%
- •Project Work 25%
- ·(Accompanied by Folio and Experiments)



#### Schools Experience with the Subject

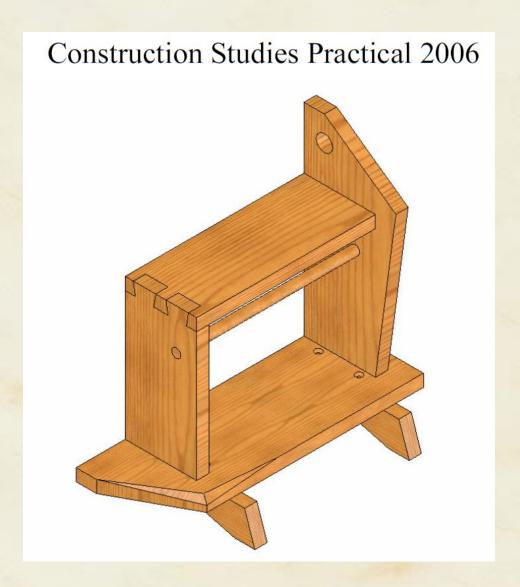
The subject appeals to a lot of students as it gives them an opportunity to develop practical skills. There is a high uptake of the subject (limited to 24 a class). The two workshops have recently been fitted with modern dust extraction facilities and are equipped with some of the most up to date facilities in the country.

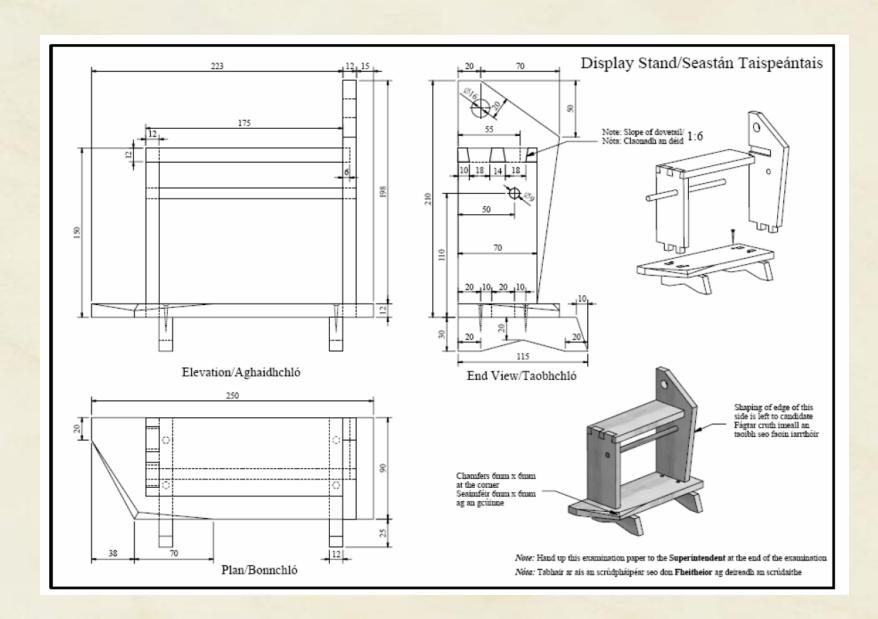


#### **Subject Overview**

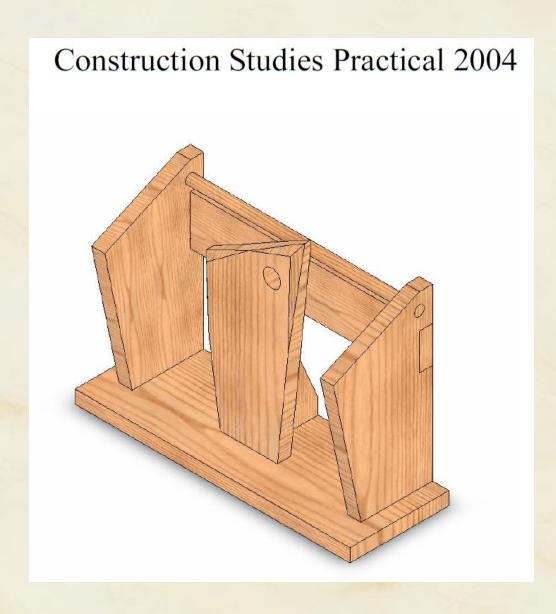
Construction Studies introduces students to the knowledge and skills associated with construction technology and construction materials and practices. This is achieved through theoretical study and integrated practical projects which provide a basis for the thorough exploration of materials and processes.

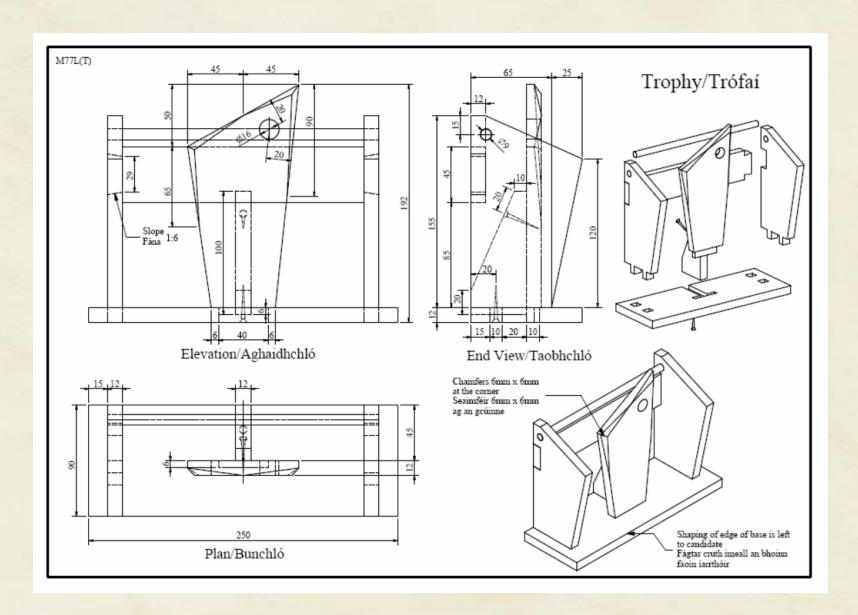
































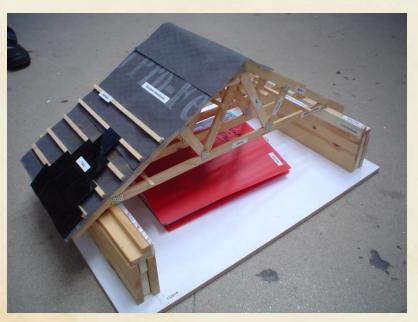












# Leaving Certificate Vocational Programme

Link Modules

#### What is LCVP?

- Leaving Certificate Vocational Programme
- An optional extra 8th subject
- Must choose a combination of option subject from a given list of 16 Eg: Home Ec and Art/ Engineering, Construction, DCG, Technology (any 2)/ any two science/ any two business
- Google: VSGs for LCVP

### Why do LCVP?

- Develop a range of skills (teamwork, IT, presentation, communication, time keeping...)
- Teaches you to be responsible for own work
- Become more innovative and enterprising
- Allows time to research and plan your career options
- 7 out of 10 skills employees want in their young employers are on the curriculum: teamwork, decisive, organised, able to communicate, obtain and process information

#### Points

Non LCVP students: take best 6 subjects

LCVP students: may take best 5 subjects + LCVP Distinction (80%) = 66 points = H4 (O1 = 56)

Merit (65%) = 46 points = H6 = O2

Pass (50%) = 28 points = O4

Over 80% of LCVP students use their points

#### LCVP and Scoil Dara 2018/ 2019

- Distinction 33% in 2018/ 50% in 2019 (National Average = 13%)
- Merit 67% in 2018/ 50% in 2019 (National Average = 51%)
- Pass (National Average = 29%)

#### The Course

- The World of Work
  - CV
  - Work Experience
  - Career Investigation
  - Rights and responsibilities as an employee
  - Job seeking skills
- Enterprise Education
  - Identifies enterprising skills
  - Research/ interview local enterprises
  - Planning skills

#### **Typical Activities**

- Case studies
- Visit out
- Visit in
- Work experience

#### The Exam

- 1. Written paper 40% (May)
- 2 ½ hours
- 2. Portfolio 60% (March)
- 6 documents including your CV, Diary of Work Experience and Recorded Interview

## ECONOMICS

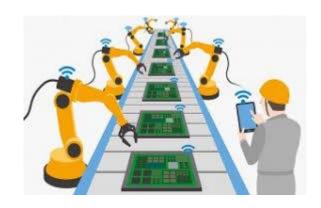


### WHY STUDY ECONOMICS .....

Develop an understanding of economic concepts and theories through the study of current economic issues, problems and institutions.

We use these theories to help us answer lots of questions ......







### ECONOMICS ----

### ----TWO VIEWS

• The individual Business



The whole Economy



HOW DOES ONE SMALL BUSINESS EFFECT ALL THE BUSINESSES IN THE ECONOMY

# MORE QUESTIONS WE WANT ANSWERS TO

 When your favourite band are playing in the 3 areas why do all the hotels increase their prices  How can Apple make an Iphone for \$25 and charge us \$600

• Or



 How so Ryanair know when to put up their prices when there is a big footie match on in Liverpool And



 Why do we need to pay so much tax to the Government...... What do they do with my money

#### COURSE STRUCTURE

- Paper Length & Structure 1 Paper 2 Sections, 2.5 hours
  - Section1: 9 Short Questions Answer 6 (100 marks)
  - Section2: 8 Long questions Answer 4 (300 marks)
- JC Business required? No
- Approx 11% of students who take Economics get an A
- Course content completed by Mocks
- BUT in 2019/2020 Economics is changing .......

# ECONOMICS – 5<sup>TH</sup> & 6THYEARSTUDENTS VIEWS

#### The Pro's

- Low numbers take it on high chance of getting good grade
- Course completed early in 6<sup>th</sup> year
- Relevant to current life/ News/Current Affairs
- Don't need to be good at Maths
- Lots of real life examples

- The Con's
- Graphs understanding market structures
- Learning new things and definitions

Lets hear from some our students

### CAREERS IN ECONOMICS





Courses offered by the department are among the most popular in Maynooth University and the department is ranked among the leading research departments in Europe.

### QUESTIONS ANY ONE?

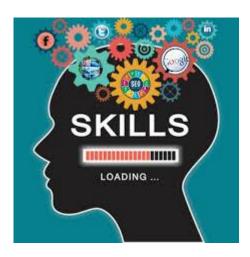


# BUSINESS



### WHY STUDY BUSINESS .....

- Whether you work in sport, music, the army, education, retail or science a knowledge of Business will have lots of benefits for you.
  - Communication skills
    - Organisation skills
      - Planning skills
      - Marketing skills
      - Enterprise skills
  - Money making skills



### BUSINESS -----WHAT DO WE STUDY

#### Course Content, 7 Units

- Unit 1:People in business
- Unit 2: Enterprise and Management
- Unit 3: Managing 1 Skills and activities
- Unit 4: HRM, Changing role of management
- Unit 5: Business in action Marketing, Business Planning
- Unit 6: Domestic Environment Govt Policies, the economy
- Unit 7: International Environment EU Policies International Trade

### SOME TOPICS WE EXAMINE IN BUSINESS

- Consumers protection and Employment
- Laws
- Enterprise how do these people come up with such money making ideas

 Marketing – how do businesses make up want their products and services so much

 Why do big businesses choose Ireland for their location



# BUSINESS – 5<sup>TH</sup> YEAR STUDENTS VIEWS

#### **Pros**

- Understandable & units interlink
- Relevant to life
- If not good with numbers a good business option
- Course completed early in 6<sup>th</sup> year

Lets hear from some our students

#### Cons

- Lots of definitions
- Need to keep on top of the work



#### CAREERS IN BUSINESS

- accountancy
- advertising
- banking, investment and financial services
- general management
- HR/personnel
- management consultancy
- public relations
- retail management
- sales and marketing

#### FACT

"A total of 8,531 or 14 per cent of applicants to the CAO seeking a college place in a level 8 higher degree in 2018 have listed a business degree program as their first choice."

IRISH TIMES NEWSPAPER

### QUESTIONS ANY ONE?



# ACCOUNTING



# • I'D TELL YOU MY FAVOURITE ACCOUNTANT JOKE BUT I DON'T THINK YOU'D DEPRECIATE IT.

### **ACCOUNTING**

- STUDENTS WHO ENJOYED THE BOOKKEEPING PART OF JUNIOR CERT BUSINESS SHOULD CONSIDER ACCOUNTING.
- PREPARATION, ANALYSIS AND INTERPRETATION OF ACCOUNTS IS THE CORE ACTIVITY AT LEAVING CERT LEVEL.
- SUBJECT FOR THOSE WITH STRONG NUMERACY AND REASONING SKILLS.
- THEORY ELEMENT IS SMALL BUT STILL VERY IMPORTANT.

### **EXAM**

#### PAPER LENGTH & STRUCTURE — 1 PAPER - 3HOURS, 3 SECTIONS

- SECTION 1- FINANCIAL ACCOUNTING 4 QUESTIONS— ANSWER Q1 OR ANY 2 OTHER Q'S(120 MARKS)
- SECTION 2- FINANCIAL ACCOUNTING 3 QUESTIONS— ANSWER 2 (200 MARKS)
- SECTION 3- MANAGEMENT ACCOUNTING 2 QUESTIONS— ANSWER 1 (80MARKS)

### IS IT DIFFICULT?

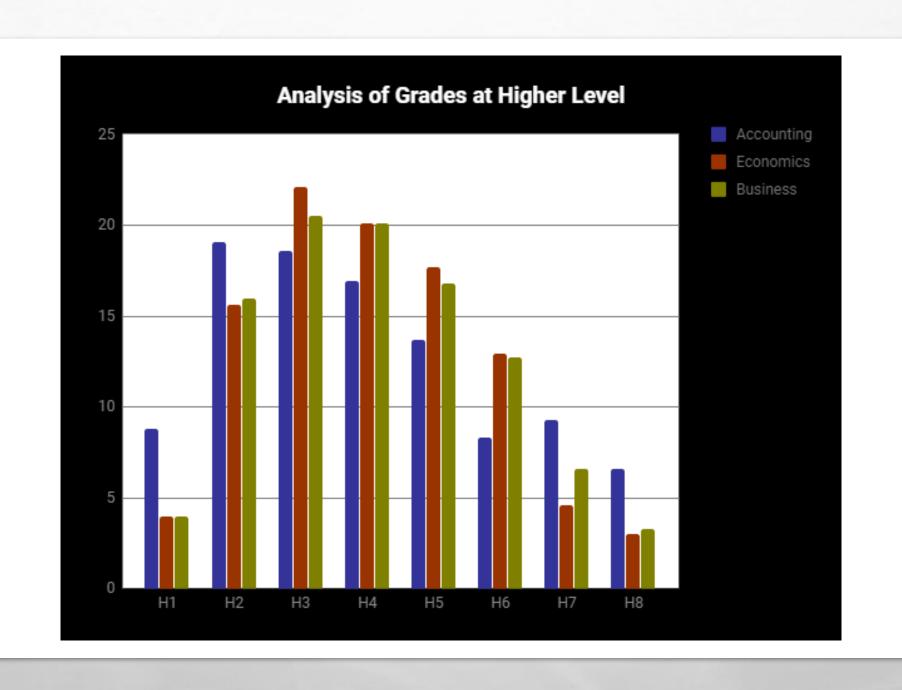
- PRACTICAL ELEMENT? ALL VERY MUCH HANDS ON AND STUDENT DOING ACCOUNTS EVERY DAY.
- •INDIVIDUAL WORK? DEFINITELY VERY MUCH WILL DEPEND ON HOW MUCH YOU ARE WILLING TO GIVE TO IT—STUDENTS WILL NEED TO GIVE SUBSTANTIAL AMOUNTS OF TIME TO IT FOR HOMEWORK

- •JC BUSINESS REQUIRED? DEFINITE ADVANTAGE
- COURSE CONTENT COMPLETED BY MOCKS

### **STATISTICS**

- •APPROX 28% OF STUDENTS WHO TAKE ACCOUNTING GET A H1/H2
- •APPROX 63% OF STUDENTS ACHIEVE A H4 OR HIGHER

(2018 STATISTICS)



### THE STUDENT VIEW

#### **PROS**

- ONCE STUDIED AND PRACTICED BECOMES EASIER
- REWARDING
- CAN PICK UP MARKS EVEN WHEN UNSURE OF FULL SOLUTION
- COURSE COMPLETED EARLY IN 6<sup>TH</sup> YEAR

#### CONS

- •IF YOU DON'T UNDERSTAND ITS FRUSTRATING / HARD
- •TIME
- •NOMEWORK 30/60 MINS PER NIGHT DEPENDING ON TOPIC BEING COVERED

THIS COURSE OFFERS A HARD WORKING STUDENT THE REAL POSSIBILITY OF HIGH GRADES BECAUSE OF THE UNAMBIGUOUS NATURE OF THE QUESTIONS.

### **CAREER OPTIONS**

- ACCOUNTANT, AUDITOR, TAX ADVISOR, CHIEF FINANCIAL OFFICER
- MANY MANY OPTIONS EVERYONE NEEDS ACCOUNTANTS!!
- JOBS NOT SIGNIFICANTLY AFFECTED BY RECESSION STILL NEEDED
- THE AVERAGE SALARY PACKAGE IN 2017 FOR A CHARTERED ACCOUNTANT IN <u>LEINSTER</u> WAS €106,500



# Leaving Cert History

## SCOIL DARA KILCOCK



### Why History?

- •Its important to know how we got to where we are today
- Leaving cert history will develop on some of the topics that you covered at junior cycle
- important to be aware of world history and help you understand world culture
- There are many career opportunities:
- Teaching, politics
- Archaeology, museum curator
- Lecturing
- •Will heln you prepare to study history in college

# Topics that you will cover



### **Skills and Demands**

- •Students are required develop research skills, Essay writing skills, analysing documents, films, audio clips, critiquing articles or newspapers clippings.
- Exam is 80%, Document question worth 20%, 3 Essays
- Research Study report 20% completed before you enter exam
- Can pick any event or person in history before 1992
- •Any questions?

#### POLITICS AND SOCIETY

SCOIL DARA KILCOCK

## Why Politics and Society?

- •New leaving cert subject of which the school is part of the Pilot programme
- •Subject aims to develop the learners capacity to engage in reflective and active citizenship, informed by the insights and skills of social and political sciences.
- •Gives us the opportunity to look at decision making at local, national and international level. Understand world culture and politics and how it effects the globe.
- ·Careers: Journalism, Politics, Social Science, Anthropology, Teaching etc

#### Structure of the course

- •Strand 1: Power and decision making
- •T1: In the school,T2: at national and European level
- •Strand 2: Active Citizenship
- •T3:Effectively contributing to communities T4:Rights and responsibilities in communicating with others(Project to do on this title 20% of leaving cert)
- •Strand 3: Human rights and responsibilities
- •T5: in Ireland T6: in Europe and the wider world
- •Strand 4: Globalisation and Identity
- •T7 Globalisation and Identity T8: Sustainable development

## Some of the themes and Topics





#### Skills and Demands

- •Students will be expected to develop research skills and be able to identify facts from alternative facts (LIES)
- •Develop essay writing skills, data analysis, and gain a better understanding of global affairs, power and influence of the media.
- •Students will have to learn about key political philosophers such as Marx and Freire.
- •Develop the ability to see the strange in the familiar.
- Any Questions

**Leaving Cert Geography** 

**Course Outline** 

#### **General Notes:**

- Similar to Junior Cert Geography in terms of topics but with a lot more detail required
- ▶There are short and long questions on the Leaving Cert paper
- ► The Leaving Cert paper is 2 hours and 50 minutes
- Long questions are in essay form and are made up of SRPs (Significant Relevant Points)
- Physical, Regional and Human Geography sections all require15 SRPs per essay
- ► Geoecology requires 24 SRPs
- ►There are approximately **100 essays** to cover and learn over the two years

#### 5th Year

- ▶1. Physical Geography September to Christmas
- ► Earth's Surface
- ► Plate Tectonics
- ▶ Volcanoes
- ► Earthquakes
- **▶** Rocks
- ► Folding and Faulting
- Weathering
- ► Karst Landscapes
- ►In brief: Mass movement, coastal and glaciation
- ►In detail: Rivers

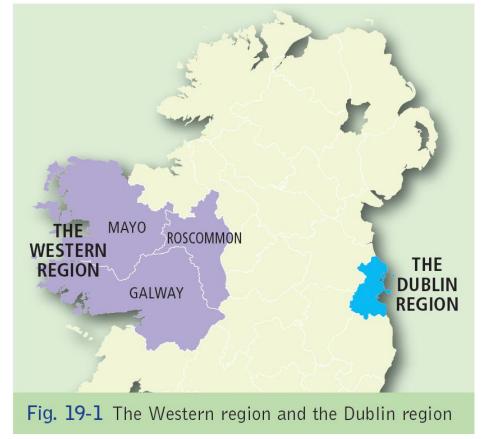
#### 5th year condt.

- ► January: OS Maps, Aerial Photos & Weather Maps
- ▶2. Regional Geography February to May
- ► Concepts of a Region Cultural, Religious, Climatic, Administrative, Urban
- ► Sketch Maps of all regions

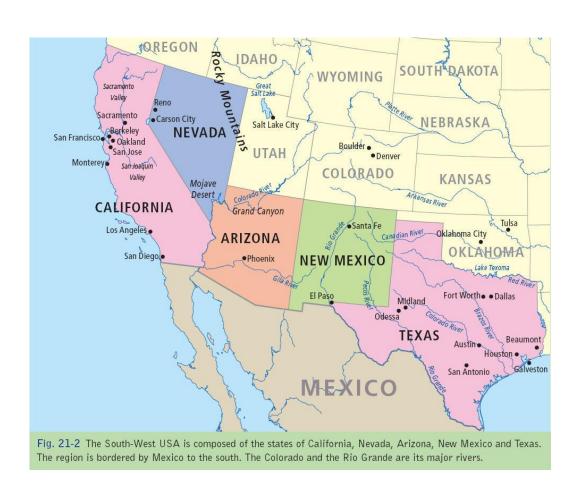
European Regions - the Paris Basin (Core) & the Mezzogiorno in Italy (Periphery)



Irish Regions - Greater Dublin Area (Core) & Western Ireland (Periphery)



#### Sub-Continental - South-West USA



#### 6th year:

- ► Geographical Investigation (GI):
- ▶1. Field study, rough work write-up & official write-up September to November
- ▶2. Population Geography December to Easter Break
- ▶3. Enveloping of GI end of April
- ▶4. Geoecology (Honours only) Easter to May
  - Soils
  - Biomes



## Chemistry talk

Ms Hickey
Ms king



#### 6th year:

- .Geographical Investigation (GI):
- .1. Field study, rough work write-up & official write-up
- September to November
- 2. Population Geography December to Easter Break
- Enveloping of GI end of April
- 4. Geoecology (Honours only) Easter to May
  - Soils
  - Biomes

## What it involves

- .28 mandatory practical
- Prepare soap, flame tests, make benzoic acti from scratch
- .24 chapters the periodic table, Bonding, Acids/baes/pH, Water, Oxidation+ reduction, Organic Chemistry
- Calculations a number of chapters based on calculations
- .Most of the content is new.

#### Exam

- Layout similar every year.
- Pick your questions and work on them

- Section a 3 experiment questions (must do 2 but can do 3)
- Section b do 6 out of 8 possible questions. Some internal choice

## Coming in

It would be expected you have junior certificate science. Junior Cert maths to a higher level.

- Full attendance required as very difficult to cover on your own.
- Need to understand a lot of concepts, work hard, and you will enjoy the subject.

## Science in college

- Biggest dropout rate in any first year class science in college
- People who have not done chemistry

- Make sure you know what science subjects you need for your chosen course.
- People only realise in 6th year that they needed chemistry



#### Jobs

.Medicine

.Food science

.Materials science

.Engineering

.Ag science

.Pharmacy

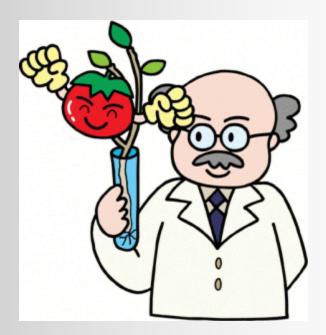
.Vet

.Biotechnology

.Forensics

Analytical chemist.

Healthcare scientist,
clinical biochemistry.
Forensic scientist.
Pharmacologist.
Research scientist (physical sciences)
Toxicologist



## Why Study Biology?



Biologists are scientists who study the natural world and all the living things in it, from the largest mammals down to our very own microscopic DNA.

- They try to understand how animals and organisms work (including humans)
- how we evolved
- the things that can make us sick or improve our health.

Biologists use this knowledge to do things for example:

- try to stop the spread of disease
- improve public health
- animal care
- conservation of our environment and work out the true impacts of things like pollution.

#### -Biology can be controversial

- Examples:
  - Dealing with endangered species?
  - Use of human fetal tissue in biomedical research?
  - Safety of irradiated foods?

#### In Big Advance in Cloning, Biologists Create 50 Mice

Indicates More Rapid Progress Than Imagined

#### By GINA KOLATA

Scientists from Hawaii said yesterday that they had made dozens of adult mouse clones and even cloned some of those clones. The announcement, coming after months of rumors, still stunned biologists when they heard the details. It means, they say, that advances in cloning are coming faster than even the most confident scientists had imagined.

The New Mark Times months to churn out clones of adult mice, following the announceme last year that the first clon-

feat, scientists said, meant at cloning an adult animal like

clinics add human cloning to their repertoires." The method would first have to be perfected in mice and then

Dr. Zirkin said that human clon "needs to be discussed," by ed that the main sign

ientists and the public for dec-

But until last year, when the birth of Dolly was announced, most scientists had given up on the idea of cloning adults, although they gener-

Continued on Page A20

# What careers can I do with biology?

 Biology opens up exciting career possibilities to tackle important 21st century challenges

## ..Long Long list!

 nursing, dentistry, forensic science, psychology, physiotherapy, botany, environmental science, zoology, geology, pharmaceuticals, energy, teaching, genetics and research, cancer research.....

## Major Themes in Biology

Leaving Certificate Biology is divided into 3 Units.

#### Unit 1:

- Scientific Method
- Characteristics of Living Things
- Food/Nutrition,
- Ecology and Field Work.

#### Unit 2:

- The Cell and Cell Division,
- Photosynthesis
- Respiration
- Genetics, DNA, Genetic Engineering
- Evolution
- Osmosis and Diffusion
- Enzymes.

#### Unit 3:

- Fungi, Bacteria, Viruses,
- Human Body Systems
- Plant Systems & Structure

## Student Suitability

- •Students should have an interest in Junior Science, in particular in the human body and plants.
- Ideally students should have sat the Science Junior Certificate exam
- •Biology involves a large volume of learning so students must be willing to work hard.

Don't fall into the trap of thinking Biology is the "easy" science subject.

9.7% of students failed Biology in 2012. While in 2016 the failure rate was 8.9 per cent.

Leaving Certificate

Home Economics
Scientific and Social

Syllabus Structure



### The Core Section

3 areas

#### The Core

.Food Science

Financial Management

Family Structure in Society

#### **Food Science**

·Nutrition-Nutrients, Microbialogy, preservations.

·Diet and Health-Special diets, menu planning.

·Food Preparation-Cooking skills, food commodities.

#### PLUS

cookery journal (20% of your final result)

### Financial Management

25% of the course

Housing finance-management.

Housing Technology- appliances.

Consumer Studies-laws,

Managing the environment.

#### **Social Studies**

10% of the course

.Marriage

.Family Functions

#### The Elective can be:

Social Studies
Or

Home Design and Management Or

Textile, Fashion and Design

#### Scoil Dara Elective (usually)

#### Social Studies

Education

Poverty

Work

Leisure

#### Textile Fashion and Design Elective

**.**Garment Industry

.Clothing Industry

.Fashion

.Textile Design

#### Home Design and Management Elective

- .Housing
- Building a house
- .Interior design
- Energy efficiency
- .Home services



#### Why pick Home Economics?

It's a really great subject that supports you in everyday life.

You 're building on what you already know about food and health.

Cooking is fun.

You have a skill for the rest of your life.

It is recognised by all universities.

## Is this the subject for you?



# Career Choices??

# PHYSICS