IFP Modules

Find out more about the modules offered by the IFP and then answer some questions prepared by IFP tutors on their modules. You can also do some reading if you’d like to get prepared during the summer. Bring your answers with you to Reading, so you can discuss them in your first class.

Biology
Chemistry
Computer Science
Economics
Environmental Science
Further Maths
International English
Information Systems and Statistics
Law
Introduction to Business and Management
Mathematics
Mathematics for Finance, Economics and Business
Physics
Politics
Sociology
Biology and Environmental Science

I'm Prue Griffiths. I teach Biology and Environmental Science. In Biology I aim to give you a sound understanding of biological principles and to provide you with the appropriate analytical and practical skills. In Environmental Science, we look at ecological and physical processes and the impact of man on those processes with an understanding of the key concept of sustainability. Here are some questions you may be asked in these subjects. Have a go at answering them and show your answers to me in our first class together.

Please take a look at the following text books too if you’d like to do some pre-course reading:


Biology

Questions on characteristics of life

List seven characteristics of living organisms.

Define the following terms:

- photosynthesis
- cellular respiration
- excretion
- homeostasis

Question on the cell

State the function of the following cell organelles:

- nucleus
- plasma membrane
- mitochondrion
- endoplasmic reticulum
- Golgi apparatus

Question on enzymes

(a) Give a definition of an enzyme?

(b) Name two examples of enzymes.

(c) Explain what is meant by the active site of an enzyme.
Environmental Science

Question on Ecology

Complete the following passage on ecology by writing the appropriate word or words on the lines.

Ecology is the study of interactions of organisms with each other and their ___________________. The place where an organism lives is known as its _____________________. As an example, a field may contain a ___________________ of several species of grass, which will be grazed by a _____________________ of rabbits, which are herbivores.

Question on the atmosphere

(a) Describe the following layers in the atmosphere:
  (i) troposphere
  (ii) stratosphere

(b) Define the term greenhouse gas.

(c) List three greenhouse gases.

Chemistry

I'm David Wright. I teach Chemistry. The IFP Chemistry course includes, among other things, a study of the Periodic Table, the structures of atoms, and the reactions of the organic compounds which form the basis of all life on Earth. You might like to look at the course textbook:


Here are three questions for you to try to answer before the course starts:

1. Which element can be either a black solid or a purple gas, depending on the temperature?
   A. bromine    B. iron    C. iodine    D. carbon

2. Which of these elements is found in all proteins?
   A. sodium    B. nitrogen    C. phosphorus    D. potassium

3. An element whose atoms contain 12 protons is
   A. carbon    B. nitrogen    C. calcium    D. magnesium

Check your answers here
Computer Science

Hi, I'm Dawn Willoughby. I teach Computer Science. Students will learn to identify and describe basic computer hardware and to solve programming problems using C programming language. Here are some questions you may be asked in this subject. Have a go at answering them and show your answers to me in our first class together.

1) Name two output devices and explain how they work.

2) Describe the advantages and disadvantages of using the following input devices:
   a) keyboard
   b) mouse

3) Explain the two major differences between RAM and ROM memory.

Economics

Hi, I'm Maria Asensio. I teach Economics. We study the free market economy, the national economy and the international economy. Here are some questions you may be asked in this subject. Have a go at answering them and show your answers to me in our first class together. Please take a look at the following journals/newspapers too if you'd like to do some pre-course reading:

- The Economist
- Business Week
- International Herald Tribune

1) Why would you like to study Economics?

2) Economics can best be defined as the study of:
   a) Allocating finite resources to satisfy limitless wants
   b) Spending your money wisely
   c) Producing more goods and services
   d) Maximising happiness

3) Look at the following topics:

<table>
<thead>
<tr>
<th>The environment</th>
<th>Poverty</th>
<th>Taxation</th>
<th>Interest rates</th>
<th>Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share prices</td>
<td>Efficiency</td>
<td>Consumer choice</td>
<td>E-commerce</td>
<td>Labour markets</td>
</tr>
</tbody>
</table>

Which of these are studied by economists?

   a) Only the black ones
   b) Only the blue ones
   c) All except the grey ones
   d) All of them
Further Maths

Hi, I’m Elizabeth Glaister. I teach Further Mathematics. In this course we study vectors, mechanics and differential equations. Here are some questions you may be asked in this subject. Have a go at answering them and show your answers to me in our first class together.

1) Dissect a hexagon

How can you cut a regular hexagon into 8 identical pieces?

2) Four straight lines

Without taking your pencil from the paper, draw 4 straight lines that together pass through all nine points on this 9-dot grid.

3) How about drawing 6 straight lines to pass through every point on a 16-dot grid:
Hello, my name is Amanda Fava-Verde and I teach International English. In this module we develop students’ abilities, techniques and strategies in the use of English for Academic Purposes.

We also introduce students to the issues associated with urbanisation and the power of Science and Technology to solve problems. Here are some questions you might be asked on these subjects. Have a go at answering them and show your answers to me in our first class together.

Please take a look at the following text book too if you’d like to do some pre-course reading:


1) What has been your experience of learning English so far? Tell us about some of the teachers you have had, the textbooks you have used and the kinds of methods your teachers employed. Has your experience so far been positive or negative and why?

2) **Quiz on global urbanisation**

   1. Urbanisation is a noun. What is the adjective form?
      a) urbane   b) urban   c) urbanise

   2. A ‘megacity’ has a population of more than
      a) 1 million people   b) 10 million people   c) 50 million people

   3. Cities are growing at a much faster rate in:
      a) developing countries   b) developed countries

   4. According to United Nations statistics, what percentage of the world population live in cities today?
      a) 28.7 per cent   b) 50.5 per cent   c) 73.5 per cent

   5. The film ‘Slumdog Millionaire’ takes place in which city:
      a) Bangkok   b) Jakarta   c) Mumbai

3a) Choose the correct word to fill each gap.

   nation   higher   migrate   social   industry

   People ______ to the cities in search of both economic security and improved ______ conditions. As the economy of a ______ develops, its cities develop as centres of ______, investment and education, providing plentiful job opportunities for those in search of a ______ standard of living.
3b) Now, without looking back at the text, try to repeat the above in your own words. Did you get it right?
Information Systems and Statistics

Hello, my name is Dawn Willoughby and I teach Information Systems and Statistics. In Information Systems, we study how systems are implemented in real-life business situations such as banks and supermarkets. Students will also be able to enhance their computer-based skills using the Microsoft Office suite of programmes. In Statistics, we will use a variety of statistical methods to collect and analyse data. There will be weekly tutorial classes in which you can practice your skills.

Please take a look at the following text book too if you’d like to do some pre-course reading:  
*Edexcel AS and A Level Modular Mathematics Statistics 1* (S1) (ISBN number 0435519124)

Here are some questions you might be asked in this subject. Have a go at answering them and show your answers to me in our first class together.

1. Using examples, describe four benefits that Information Systems can offer to a business organisation.

2. The pre-tax profits of a leading supermarket were recorded for the past six years; the figures are shown below in £billions:

   48.35  40.28  39.11  44.76  42.87  38.65

   a) Write down the median for these data.
   b) Calculate the mean for these data.
   c) The supermarket wishes to give a press release to the media, announcing its average profit over this time period. Should the supermarket use the mean or median value in their press release? Give a reason for your answer.

Law

Hello, I’m Val Baker. I teach Law. In this course we look at the main principles of English Law and the structure of the English legal system. Here are some questions you may be asked in this subject. Have a go at answering them and show your answers to me in our first class together.

Please take a look at the following books too if you’d like to do some pre-course reading:

Elliott, C. and Quinn, F. *Contract Law* (Pub. Pearson Longman)
Hodge, S. *Tort Law* (Pub. Willan)

1) What are your views on capital punishment as the ultimate sanction of the courts?

2) Why do you want to study Law?
Introduction to Business and Management

Hello and welcome. I am Dr. Meiko Murayama and I teach the Introduction to Business and Management module. In this module you will study introductory business theories using various materials, including: textbooks, newspaper articles and case studies. You are encouraged to participate in active discussion and group work during classes as we make use of different methods of learning to enhance your experience.

Please take a look at the following text books as pre-course reading to help you prepare for the module:

Have a look at this BBC website and reflect on the key issues in the business world currently:  http://news.bbc.co.uk/1/hi/business/

Here are some questions you may be asked in the first sessions. Have a go at answering them and we can discuss your answers in our first classes together:

1) Why do you think it is important to study business and management?
2) What are the main functions of organisations?

Maths

I’m Val Uglow. I teach the Mathematics module, in which we study algebra, geometry, trigonometry, logarithms and calculus (differentiation and integration). Below are two practical problems that use skills you will learn on this course. If you want to be well prepared for this course you should practise your algebra skills, as these are very important. Please take a look at the following text book if you’d like to do some pre-course reading:

Croft, A. and Davison, R.  Foundation Mathematics (Pub. Prentice Hall)

1. An observer measures the angle of elevation of the top of a tree 100m away as being 9°. How tall is the tree?

2. There are 50 apple trees in an orchard. Each tree produces 800 apples. For each additional tree planted, the output per tree drops by 10 apples. How many trees should be added to the existing orchard to maximise the total output of apples?
Maths for Finance, Economics and Business

Hello, I’m Sue Peel. I teach Mathematics for Finance, Economics and Business. In this course we look at algebra, linear programming and distributions among other topics. Here are some questions you may be asked in this subject. Have a go at answering them and show your answers to me in our first class together. Please take a look at the following textbook too if you’d like to do some pre-course reading:


Give an answer of true or false to the following questions:

1. Probability is measured on a scale between 0 and 1.

2. The method of completing the square may be used to find the turning point of a quadratic equation.

Physics

I’m Mark Peace. I teach Physics. In this course we look at atoms, electricity and mechanics. Here are some questions you may be asked in this subject. Have a go at answering them and show your answers to me in our first class together. Please take a look at the following book too if you’d like to do some pre-course reading:


1. An aeroplane takes off and accelerates from 18 km/h to 126 km/h in 0.5 seconds. Find (a) the acceleration (b) the distance travelled during the 5 seconds.

2. Two resistors of 4.0 ohms and 5.0 ohms are connected in series to a battery of emf 4.0V. Find (a) the current in the circuits (b) the pd between the ends of the 4.0 ohm resistor.
Politics and Sociology

Hi, I'm Dawn Clark. I teach Politics and Sociology. In Politics my aim is to give you an understanding of the nature of political institutions and ideologies. In Sociology we look at key theories, methods and topics within sociology such as families, religion and the mass media. Here are some questions you may be asked in this subject. Have a go at answering them and show your answers to me in our first class together. Please take a look at the following text book too if you’d like to do some pre-course reading:


Politics

1. What are the two main American political parties?
2. How many nations make up the United Kingdom?
3. In what year was the last British general election, and which party won it?
4. Who was the forty-second President of the United States?
5. In what year was The Communist Manifesto published?
6. Which of the following countries is not a member of the European Union?
   - Sweden
   - Slovenia
   - Switzerland
   - Slovakia
7. Which three words begin the constitution of the United States?
8. From which language do we get the word ‘democracy’?
9. Who lives at Number 11 Downing Street in London?
10. Who was British Prime Minister before Tony Blair?
11. When did women in the United Kingdom first receive the vote?
12. How often are US presidential elections held?

Check your answers here

Sociology

1. Is human behaviour a product of nature or nurture?
2. Why do women commit less crime than men?
3. Try these two activities:
   - Introduction to Sociology
   - Individual and Society
Answers

Chemistry
1 C  
2 B  
3 D  

International English

2) Quiz
1 b; 2 b; 3 a; 4 b; 5 c

3a) People migrate to the cities in search of both economic security and improved social conditions. As the economy of a nation develops, its cities develop as centres of industry, investment and education, providing plentiful job opportunities for those in search of a higher standard of living.

Politics

1. What are the two main American political parties?
Democrat and Republican

2. How many nations make up the United Kingdom?
Four: England, Scotland, Wales, and Northern Ireland

3. In what year was the last British general election, and which party won it?
2010. No one party had a big enough majority to govern. Britain has a coalition of the major party – the Conservatives with the minor party, the Liberal Democrats.

4. Who was the forty-second President of the United States?
Bill Clinton

5. In what year was The Communist Manifesto published?
1848

6. Which of the following countries is not a member of the European Union? Sweden; Slovenia; Switzerland; Slovakia?
Switzerland

7. Which three words begin the constitution of the United States?
'We the people…'

8. From which language do we get the word ‘democracy’?
Greek

9. Who lives at Number 11 Downing Street in London?
The Chancellor of the Exchequer – currently George Osborne.

10. Who was British Prime Minister before Tony Blair?
John Major

11. When did women in the United Kingdom first receive the vote?
1918

12. How often are US presidential elections held?
Every four years