

Applied Human Biology - Year 12 Curriculum Overview

| Sequencing of topics | What knowledge will students develop? (Including key terminology) | What skills will students develop? (Including literacy & numeracy) | Assessment opportunities | Homework opportunities | Personal development (Ursuline Values, Catholic Social Teaching, Cultural Capital, Cross-curricular, Careers) | Curriculum links |
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| Autumn Term 1 | | | | | | |
| Unit 1- Principles of Applied Human Biology | <ul style="list-style-type: none"> ○ A1 Cells, tissues and biological molecules ○ A2 Nervous system ○ A3 Cardiovascular and respiratory system | <ul style="list-style-type: none"> ○ Understand the relationship between the structure, function ○ Knowledge of specific chemical structures for Biological Molecules ○ Detailed understanding of a polymer ○ Understand the structure and function of the nervous system ○ Understand the relationship between the structure, function and processes of the cardiovascular and respiratory systems linked to health. ○ Learners should be able to describe risk factors for the conditions listed | <ul style="list-style-type: none"> ○ Targeted Questioning ○ End of topic assessment | <ul style="list-style-type: none"> ○ Practice exam questions done throughout ○ Research Tasks/Projects ○ Flipped Learning worksheets ○ Satchel/Neeto Quizzes | <ul style="list-style-type: none"> ○ Listening and attentive ○ Acting with truth and integrity ○ Courageous and resilient ○ Dignity of God's people ○ Care for Creation ○ Physical ○ Personal ○ Mathematics ○ PE ○ Art ○ RE ○ Biomedical Scientist ○ Doctor ○ Nurse ○ Personal Trainer | <ul style="list-style-type: none"> KS1/2 <ul style="list-style-type: none"> ○ Nutrient transport in animals ○ Healthy human development ○ Circulatory System KS3 <ul style="list-style-type: none"> ○ Cells ○ Breathing KS4 <ul style="list-style-type: none"> ○ Nervous system ○ Cardiovascular System ○ Respiratory System KS5 <ul style="list-style-type: none"> ○ Unit 2 Applied Human Biology ○ Topic 2 A Level Biology |

Autumn Term 2

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| | <ul style="list-style-type: none"> ○ A4 Digestive and excretory system ○ A5 Cellular injury and repair ○ A6 Diagnostic techniques | <ul style="list-style-type: none"> ○ Understand the relationship between the structure, function and processes of the digestive and excretory systems ○ Understand how and why cells and tissues respond and adapt, and the relevance of observing these changes in the diagnoses of diseases and disorders. ○ Understand the purposes and the basis of the techniques used to determine normal and abnormal function in humans. ○ Expected to describe the methods of diagnostic tests. | <ul style="list-style-type: none"> ○ Targeted Questioning ○ End of topic assessment | <ul style="list-style-type: none"> ○ Practice exam questions done throughout ○ Research Tasks/Projects ○ Flipped Learning worksheets ○ Satchel/Neeto Quizzes | <ul style="list-style-type: none"> ○ Listening and attentive ○ Acting with truth and integrity ○ Courageous and resilient ○ Faith filled and hopeful ○ Dignity of God's people ○ Care for Creation ○ Community and Participation ○ Physical ○ Personal ○ Moral ○ Mathematics ○ PE ○ Health and Social Care ○ RE ○ Psychology ○ Biomedical Scientist ○ Doctor ○ Nurse ○ Personal Trainer | <p>KS1/2</p> <ul style="list-style-type: none"> ○ Nutrient transport in animals ○ Healthy human development ○ Digestion <p>KS3</p> <ul style="list-style-type: none"> ○ Digestion ○ Immune System <p>KS4</p> <ul style="list-style-type: none"> ○ Digestive System ○ Endocrine system ○ Immune response <p>KS5</p> <ul style="list-style-type: none"> ○ Immune System ○ Topic 6 A level Biology ○ Unit 3 and 4 Applied Human Biology |
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Spring Term 1

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| | <ul style="list-style-type: none"> ○ B1 Immune response ○ C1 Gene expression | <ul style="list-style-type: none"> ○ Understand the processes involved in responding to pathogens ○ Learners will understand the theoretical causes, symptoms and treatment of diseases of the immune system. | <ul style="list-style-type: none"> ○ Targeted Questioning ○ End of topic assessment | <ul style="list-style-type: none"> ○ Practice exam questions done throughout ○ Research Tasks/Projects | <ul style="list-style-type: none"> ○ Listening and attentive ○ Acting with truth and integrity ○ Courageous and resilient | <p>KS1/2</p> <ul style="list-style-type: none"> ○ Genetic variation ○ Adaptation and evolution |
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| | <ul style="list-style-type: none"> ○ C2 Genetic disorders and diagnosis | <ul style="list-style-type: none"> ○ Understand the major stages involved in gene expression, including location, and the effect of mutations on the end products. | | <ul style="list-style-type: none"> ○ Flipped Learning worksheets ○ Satchel/Neeto Quizzes | <ul style="list-style-type: none"> ○ Faith filled and hopeful ○ Dignity of God's people ○ Care for Creation ○ Community and Participation ○ Solidarity ○ Physical ○ Personal ○ Moral ○ Social ○ Mathematics ○ PE ○ Health and Social Care ○ RE ○ Psychology ○ Biomedical Scientist ○ Doctor ○ Nurse ○ Geneticist ○ Immunologist ○ Councilor | <ul style="list-style-type: none"> KS3 <ul style="list-style-type: none"> ○ Genes and variation ○ Immune System KS4 <ul style="list-style-type: none"> ○ Immune response ○ Inheritance and variation KS5 <ul style="list-style-type: none"> ○ Immune System Topic 6 ○ A level Biology and Topic 2 Gene sand health ○ Unit 3 and 4 Applied Human Biology |
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Spring Term 2

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| Unit 2- Practical Microbiology and Infectious Disease | <ul style="list-style-type: none"> Aim A- A1 Characteristics of different microorganisms A2 Methods of pathogenicity A3 Classification strategies | <ul style="list-style-type: none"> ○ Investigate the types of pathogen and their characteristics and understand their mechanisms of virulence. ○ They will be able to apply their fundamental understanding of the structure of cells and normal cell/tissue activity from Unit 1: Principles of Applied Human Biology to explore the virulent nature of pathogens and how | <ul style="list-style-type: none"> ○ Targeted Questioning ○ End of topic assessment ○ Learning Aim A coursework | <ul style="list-style-type: none"> ○ Practice exam questions done throughout ○ Research Tasks/Projects ○ Flipped Learning worksheets ○ Satchel/Neeto Quizzes | <ul style="list-style-type: none"> ○ Loving and compassionate ○ Listening and attentive ○ Acting with truth and integrity ○ Courageous and resilient ○ Dignity of God's people ○ Care for Creation ○ Physical ○ Personal ○ Moral | <ul style="list-style-type: none"> KS1/2 <ul style="list-style-type: none"> ○ Classification KS3 <ul style="list-style-type: none"> ○ Cells ○ Variation KS4 <ul style="list-style-type: none"> ○ Cells ○ Cell division |
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| | | they can cause infection and disease. | | | <ul style="list-style-type: none"> ○ PE ○ Art ○ Psychology ○ Sociology ○ Biomedical Scientist ○ Doctor ○ Nurse ○ Microbiologist ○ immunologist | <ul style="list-style-type: none"> ○ Disease <p>KS5</p> <ul style="list-style-type: none"> ○ Unit 1 and 3 Applied Human Biology ○ Topic 1 A level Biology Lifestyle, health and risk. |
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Summer Term 1

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| | <p>Aim B-</p> <p>B1 Classification overview of infectious disease</p> <p>B2 Transmission of infectious agents</p> <p>B3 Infectious diseases, signs, symptoms and progression</p> <p>B4 Prevention and treatment of infectious diseases</p> | <ul style="list-style-type: none"> ○ Understand the types of pathogen that cause infectious disease, their transmission from infected host to host and their subsequent development in the body. ○ Will be able to apply their understanding of symptomatic nature of the human body including immune response/ dysfunction ○ Discuss diagnostic tests associated in identifying abnormal and normal function ○ Determine how infections cause disease and to understand the nature of treatment required to treat and prevent spread of disease which can affect the organs and organ systems. ○ Select and apply knowledge on cardiovascular and respiratory | <ul style="list-style-type: none"> ○ Targeted Questioning ○ End of topic assessment ○ Learning Aim B coursework ○ Practical components required for the coursework | <ul style="list-style-type: none"> ○ Practice exam questions done throughout ○ Research Tasks/Projects ○ Flipped Learning worksheets ○ Satchel/Neeto Quizzes | <ul style="list-style-type: none"> ○ Loving and compassionate ○ Listening and attentive ○ Acting with truth and integrity ○ Courageous and resilient ○ Solidarity ○ Dignity of God's people ○ Care for Creation ○ Physical ○ Personal ○ Cultural ○ PE ○ Art ○ Psychology ○ Sociology ○ Biomedical Scientist ○ Doctor ○ Nurse ○ Microbiologist ○ immunologist | <p>KS1/2</p> <ul style="list-style-type: none"> ○ Classification <p>KS3</p> <ul style="list-style-type: none"> ○ Cells ○ Variation <p>KS4</p> <ul style="list-style-type: none"> ○ Cells ○ Cell division ○ Disease <p>KS5</p> <ul style="list-style-type: none"> ○ Unit 1 and 3 Applied Human Biology ○ Topic 1 A level Biology Lifestyle, |
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| | | systems, target organs and immune response | | | | health and risk |
| Summer Term 2 | | | | | | |
| | <p>Aim C- C1 Health and safety C2 Microscopy and staining techniques C3 Culture of microorganisms C4 Quantitative analysis of microbes D1 Investigating the substances that inhibit the growth of microorganisms D2 Interpretation, analysis and evaluation</p> | <ul style="list-style-type: none"> ○ Apply their knowledge on the fundamentals of cells, tissues and biological molecules ○ Impact of diagnosing infections through microbiological techniques. They will then draw on this exploration for learning aim D. ○ Consolidate their knowledge on cells, tissues, microbiological molecules, human body systems and functioning and immune response ○ Knowledge and practical skills from learning aims A, B and C as part of their own practical investigation. ○ Understand the value of investigating activity of microorganisms in terms of the human body, including reducing the spread and prevention of disease and its impact on the normal functioning of biological systems. | <ul style="list-style-type: none"> ○ Targeted Questioning ○ End of topic assessment ○ Learning Aim C and D coursework ○ Practical components required for the coursework | <ul style="list-style-type: none"> ○ Practice exam questions done throughout ○ Research Tasks/Projects ○ Flipped Learning worksheets ○ Satchel/Neeto Quizzes | <ul style="list-style-type: none"> ○ Loving and compassionate ○ Listening and attentive ○ Acting with truth and integrity ○ Courageous and resilient ○ Solidarity ○ Dignity of God's people ○ Care for Creation ○ Physical ○ Personal ○ PE ○ Psychology ○ Sociology ○ Research Scientist ○ Biomedical Scientist ○ Doctor ○ Nurse ○ Microbiologist | <p>KS1/2</p> <ul style="list-style-type: none"> ○ Classification <p>KS3</p> <ul style="list-style-type: none"> ○ Cells ○ Variation <p>KS4</p> <ul style="list-style-type: none"> ○ Cells ○ Cell division ○ Disease <p>KS5</p> <ul style="list-style-type: none"> ○ Unit 1 and 3 Applied Human Biology ○ Topic 1 A level Biology Lifestyle, health and risk |