

BSSS

Public Health

Implementation Ideas

Contents

Building Individual Health	1
Population Health	6
The Environment and Health	12
Global Health and Human Development	20

This page left intentionally blank

Implementation Ideas

Preface

The ideas for the implementation of the course were developed by the course writers and BSSS officers to support teachers in their thinking about the breadth of possibilities for the delivery of the course.

There are multiple options provided for at each stage of the unit. Teachers may select from the options, apply their own knowledge and experience, or use a combination of the two in the development of a program of learning.

The possible themes, topics, and resources are not mandated but are there to support and stimulate thinking about the design of the programs of learning suitable for particular school contexts. It is expected that teachers will support the content descriptions with aligned case studies and materials to develop the focus of the unit.

Teachers may also use the elaborations contained in the implementation ideas either as they are or as a starting point for developing thinking and formulating pedagogical approaches around the content descriptions.

The resources suggested were accurate and links current at the time of production in 2025. There are resources provided at a range of levels from journal articles to general media resources. Some of the scientific journal articles have been provided for the benefit of teachers with the expectation these would be used for professional learning, for the development of teachers' presentations, or the research data for case studies in classwork or tests.

This page left intentionally blank

Building Individual Health

Knowledge and Understanding

Content Description	Elaborations
critically analyses *theories, concepts,* ***and*** *models* about the **indicators and determinants of individual health** to draw *informed and insightful conclusions* about how they contribute to <u>all dimensions of health</u>	Establish student knowledge about the determinants of individual health from F-10 studies. Research or present key theories that attempt to explain the determinants of health and analyse them to determine comparative validity by considering factors such as evidence base, logic, plausibility and correlation to lived experience. A key theory to consider is *Theory of Social Determinants of Health (SDOH).* Theories might be accessed through academic texts or general Health textbooks written for senior secondary or junior college settings. Others might include: • Social-Cognitive Theory • Behaviourist Theory • Personal Responsibility and Classical Liberal Theory Research and engage with debates over the meaning, significance and examples of use regarding key concepts in individual health. Discuss how different theories use concepts differently in explaining health outcomes and place different emphases on the same concepts. Significant concepts employed by the theories above may include: • Behavioural determinants on preventing chronic disease: Smoking, physical activity, diet • Risk taking behaviour • Lifestyle choices • Influence of media/ peers/ family • Cultural background • Genetic predisposition • Psychological factors and mental health, e.g. trauma • Developmental stages and age • Gender and sex • Social classes Investigate Models to understand their assumptions/axioms, research base and use in real-world policy and personal outcomes. Students access different perspectives and ideas about models to come to their own conclusions about the reliability and usefulness of models in explaining individual health outcomes. As models are complex and time consuming to investigate, it would be best to focus on one model. Models for investigation may include: • *Health Belief Model (HBM)* • *Body Mass Index (BMI)* • Palliative Care Models • Bio-Pyscho-Social Models • Trans-theoretical Model (TTM) • Various patient care models

	Resources VCE Textbook, Australian Institute of Health and Welfare, Department of Aged Care, Open-Source Health textbooks, VCE/WACE/HSC/SACE past exam paper repositories.
critically analyses *principles, strategies, **and** methodologies* associated with individual health, and **evaluates limitations and assumptions** of knowledge about, and inquiry into, these areas including the first 1000 days	Following on from understanding of theories, concept and models and consider continuing the chosen contexts by linking the theories, concepts and models to the principles, strategies, and methodologies with a common context. Introduce and explain the concept of the First 1000 Days. Consider the following resources to understand different perspectives on the principles, strategies and methodologies in health that result from the First 1000 Days Principle and thus critically analyse. • https://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/CCCH-The-First-Thousand-Days-An-Evidence-Paper-September-2017.pdf • https://www.pregnancybirthbaby.org.au/the-first-1000-days • https://www.first1000daysaustralia.com/about-us?srsltid=AfmBOophpd0xhjHd4PDFHVhZTO7lUUqmtFG1cxj8N30n-obxjA_CyxLp • https://www.rch.org.au/ccch/first-thousand-days/?msclkid=c9503527c4ec11ec83e0735d4d5e27d9 The First Thousand days is a rich and large topic of study, if there is time teachers may consider other principles, strategies and methodologies, for example, pertaining to other period of life such as adolescence or old age: • Australian Aged Care Quality Standards • National Aging and Aged Care Strategy for People from Culturally and Linguistically Diverse Backgrounds • WHO Global Standards for Quality health Care Services for Adolescence • Continuity of Care for the Elderly • NSW Health Active and Healthy Strategy • Strength-based Approach to Indigenous Health • Health promoting campaigns and programs such as vaccination schedules • Holistic and biomedical approaches • Prevention v treatment **Evaluate** *limitations and assumptions* by considering the axioms, evidence-base, the validity of theories/models underpinning the principles, strategies and methodologies and whether concepts have been used accurately and effectively in arguments. **Resources** Australian Institute of Health and Welfare, Department of Aged Care, Open-Source Health textbooks, Royal Children's Hospital Website

critically analyses individual health programs, problems or research methods and knowledge using the principles of **ethics or sustainability to evaluate solutions**	Examine one or more program, problem or research method used for individual health that follow on from the theories/strategies studied in the CDs above and critically analyse it by considering different critiques of the program, solutions to the problem or critique of methods so students can draw their own conclusions about the value and effectiveness of the topic study. Choose a problem, program or method that relates to the topics of study in the previous two CDs to ensure there is time to complete the unit. Some ideas for consideration include: • Gentle Exercise for the Elderly • Early Intervention Autism Programs • Mind Matters Programs • Aging populations • Equal access to health care • Lack of access to prenatal care • Cultural or language barrier to access to services • Carbon footprint of personal health decisions • Qualitative versus Quantitative methods • Strengths and weaknesses of observational Studies - halo effect, confirmation bias: misrepresenting findings • Surveys and Questionnaires – Cause and correlation in statistical studies: misrepresenting findings e.g. Spurious correlations websites • Case Studies and general applicability: misrepresenting findings • Longitudinal Studies- Scientific Validity, research ethics • Ethics of health care – Dr/patient confidentiality • Individual v system in the PBS • Excursion to a relevant program/ service, e.g. Aged Care Facility and their health programs
evaluates a range of **resources and technologies** intended to enhance individual health outcomes	Students examine at least one resource and one technology to evaluate their efficacy and ethics/sustainability in enhancing the intended health outcomes for individuals. The examination might be as a part of an empirical investigation or via a literature review. Students may also consider the ethics, assumptions, models and theories that underlie the technology or resource that may determine the output of the technology. It is a good idea to link this to the topics studied above so that the learning follows on and uses the prior learning. **Resources** • Mindfulness Apps • Mental health Platter • Nutrition Apps- Nourish • Fitness App- TeamBuildr, My Fitness Pal • Emerging Minds • Fitness/Wellness Influencer Channels/Platforms • Healthdirect.gov.au versus WebMD/Doctor google Students might assess the technology through a practical test of it.

	Technologies • AI and Machine Learning Diagnosis • AI Therapy • Telemedicine • Wearable Devices – Smart watches, fitness monitors • Parasocial AI relationships • Genomic Medicine- CRISPR • Robotics used in advances in surgery • continuous glucose monitoring sensors
Skills	
Content description	**Elaborations**
Synthesises public health knowledge, understanding, and skills to **investigate problems** in individual health in both **familiar and unfamiliar contexts**	Students bring together knowledge to investigate a problem in individual health. This can be linked to the topics outlined in the Knowledge and understanding CDs or a new topics could be introduced. This could be a foundational learning process or a capstone project for learning across the semester. However, as the CD calls for dealing with Unfamiliar Contexts, in any investigation there must be content or problems not covered in class but extends form or is related to the studied content, so the students' abilities to transfer their learning to the unfamiliar can be tested. This could be a comparative study of something new with something closely examined in class. **Possible Problems for Investigation** • Strengths and Weaknesses of Chronic Disease Management models- diabetes, dietary habits and individual health • Efficacy of activity guidelines • Success of government initiatives e.g. sun smart • Uptake of government lead programs – bowel screening • Equity versus equality in access to health services • Accessing or encouraging Individual motivation to change health behaviours • Access to health education and Health Literacy • Success of Scare Campaigns in Health Policy • Success of Taxation to Change Behaviour- cigarettes, alcohol, sugary beverages The format for the production could be in a range of formats such as sections of an exam, stimulus response in-class writing, debating, policy round table, take home with validation. Attention to academic integrity should be maintained.

Applies public health concepts to **create** evidence-informed, targeted and high-quality **plans** to achieve desired health outcomes for individuals	Drawing on learning from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts and a chosen problem by creating plans to address them or uses them. The students work creatively to generate something new but draw on and refer to examples of similar plans encountered in class or in their research to prepare their plan. • Plans in Response to Problems • Personalised nutrition plans • Personalised exercise plans • Chronic disease management plan- heart disease, high cholesterol • Reviewing and validating an AI developed plan • Screen Time Reduction Plan • Sleep Hygiene Plan • Plans based on Australian Osteoporosis Guidelines • Healthy Aging Plan • Hygiene and Infection Control Plans in a chosen context
plans and undertakes independent enquiries and **critically analyses** relevant *data and information* based on **critical evaluation of valid and reliable sources**	**Drawing on learning** from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts/theories/models/strategies/principles and a chosen problem by gathering empirical data or using an existing data set to analyse trends, correlations, distributions etc. in the data and validates or challenges findings using established research on the problem. • statistical analysis e.g. burden of disease, geographic distribution of health outcomes • conduct own survey • representing data in engaging ways-e.g. *Information is Beautiful* website **Sources of established Data Sets** ABS.gov.au- Australian bureau of Statistics sites AIHW.gov.au Australian Institute of Health and Welfare data sets repository WHO/OECD website data sets ACT Health Data Linkage **OR** Students could design and carry out a low-risk scientific experiment. • Heart rate and exercise • Hand washing procedures and UV lights • Sugar quantities in drinks • Iron quantities in cereal • Lifestyle Monitoring studies- screen time, sleep, food Teachers should make reference to the BSSS Ethical Research Principles and Guidelines, in particular if any experiments are to involve human participants.

	OR rather than a quantitative data science approach, Students could undertake a literature review on the chosen problems and critically analyse by comparing perspectives and data to determine their own point of view on the problem. • Literature review of impact of device use on adolescent health • Social media critique of influence health advice and/or use of advice Results could be written in class. There could be validation tasks. There could be a viva voce on the results. This could be a section of an exam.
communicates effectively using a range of modes, mediums and technique for a variety of purposes, adhering to the principles of **academic integrity**	This will be measured as student's complete tasks indicated in other CDs. Communication modes are ideally from the discipline and authentically represent communication in Public Health Contexts. Care should also be taken to keep in mind vulnerability to AI cheating, or AI be harnessed in the generation of texts. This range also includes written and spoken exams. Note that exams can contain a variety of written formats or genres such as letters, promotional scripts, essays, client plans, case notes. Only three to five tasks are permitted in a 1.0 unit. **Examples of texts students can create** • Numerical comparisons and analysis of size and measurements • Interpreting and using graphs, tables and diagrams/ data • Brochure for general audience- including rationale, (Without rationale there is the danger that the brochure is too descriptive to allow students to achieve high grades) • Presentation/conference poster for expert audience • Interview with Teacher • Research report • Experimental Report • Essay • Editorial writing • News Feature • Stimulus Response- essay, short responses, multiple choice, health related plan • Seminar

applies interpersonal, intrapersonal, and leadership skills with **integrity and understanding of differences** to individual health contexts	Students may show these people skills within the contexts of tasks. This will involve group tasks in which students demonstrate effective inter/intrapersonal skills, and leadership skills. Teachers will need to set up rubrics or observations opportunities that isolate the personal skills to make them assessable. Teachers will need to explicitly teach positive interaction/ leadership/ intrapersonal strategies and practices. Intrapersonal skills may need to be measured in combination with the reflection activities. **Examples of Tasks** Group tasks and allocated roles • Round Table Policy conference in which student represent different stake holders in a problem, e.g. setting up a health service, investigating the failure of a service/product • Hospital Ethics conference- who gets the organ donation? • Health Department Meeting with roles of minister, dep sec experts etc to decide on a policy outcomes Students lead mini seminars/lessons of topics and take questions Jigsaw activities joint research processes Conducting an experimental study as a group Fishbowl Activity Leadership in theory/leadership scenarios in health programs in an exam or group discussion.
Reflects using evidence on individual health knowledge, understanding and skills to make **targeted and justified proposals** for individual improvement	Either orally or in writing, as part of an investigation, experiment, or summative exam, or as a stand-alone summative task (e.g. journaling), students are required to **reflect** on planning, time management, and use of appropriate independent and collaborative work strategies. Some suggested methods for reflection include: • Yarning circles • Kolb's learning cycle • Rolfe's framework of reflective practice • Gibb's reflective cycle • Group/team reflection • Other methods for reflection Students need explicit teaching on how to reflect and opportunities to practice and receive feedback prior to assessment of this skills.

Population Health

Knowledge and Understanding

Content Description	Elaborations
critically analyses theories, concepts, **and** models about the **indicators and determinants of population health** to draw informed and insightful conclusions about how they contribute to health	Establish student knowledge about the determinants of population health from F-10 studies. Research or present key theories that attempt to explain the determinants of population health and analyse them to determine comparative validity by considering factors such as evidence base, logic, plausibility and correlation to lived experience. Theories might be accessed through academic texts or general Health textbooks written for senior secondary or junior college settings. Theories might include: • Theory of Reasoned Action/ Planned Behaviour • Social Cognitive Theory • Diffusion of Innovations Theory • Health Impact Assessment (HIA) • Social Theories of Health Inequality • Indicators of Population Health • Interpersonal Theory • Conspiracy theory disinformation Research and engage with debates over the meaning, significance and examples of use regarding key concepts in population health. Discuss how different theories use concepts differently in explaining health outcomes and place different emphases on the same concepts. Significant concepts employed by the theories above may include: • Nature v nurture • Health equity v health inequality • Biomedical and social models of health • Risk factors and protective factors • Individual responsibility and collective responsibility • Epidemiological transition Investigate Models to understand their assumptions/axioms, research base and use in real-world policy and personal outcomes. Students access different perspectives and ideas about models to come to their own conclusions about the reliability and usefulness of models in explaining individual health outcomes. As models are complex and time consuming to investigate, it would be best to focus on one model. Models for investigation may include: • Health Belief Model (HBM) • Ecological Models • Stages of Change Model • Precede-Proceed model • Epidemiological Transition Model • Population based models

critically analyses principles, strategies **and** methodologies related to population health and **evaluates limitations and assumptions** of knowledge about, and inquiry into, these areas	Following on from understanding of theories, concept and models and consider continuing the chosen contexts by linking the theories, concepts and models to the principles, strategies, and methodologies with a common context. Consider different perspectives on the principles, strategies and methodologies, pertaining to population health and thus critically analyse. Principles, strategies and methodologies may include: • Social equity • Health equity • Cultural awareness • Self-reported studies • Health impact assessment (HIA) • Community-Based Participatory Research (CBPR) **Evaluate** *limitations and assumptions* by considering the axioms, evidence-base, the validity of theories/models underpinning the principles, strategies and methodologies and whether concepts have been used accurately and effectively in arguments.
critically analyses population health programs, problems or research methods and knowledge using the principles of **ethics or sustainability to evaluate solutions**	Examine one or more program, problem or research method used for population health that follow on from the theories/strategies studied in the CDs above and critically analyse it by considering different critiques of the program, solutions to the problem or critique of particular methods so students can draw their own conclusions about the value and effectiveness of the topic study. Choose a problem, program or method that relates to the topics of study in the previous two CDs to ensure there is time to complete the unit. Some ideas for consideration include: • Qualitative versus Quantitative methods • Bias and sample selection • Historical medical failures e.g. Tuskegee 1932-1972, Thalidomide • Conscientious objection – such as the choice not to get vaccinated • Randomised Controlled Trials in Low-Income Countries • Antibiotic resistance • Mass vaccination campaigns • Scientific validity • Strengths and weaknesses of observational Studies - halo effect, confirmation bias: misrepresenting findings • Surveys and Questionnaires – Cause and correlation in statistical studies: misrepresenting findings e.g. Spurious correlations websites • Case Studies and general applicability: misrepresenting findings • Longitudinal Studies- Scientific Validity, research ethics • Excursion to a relevant program, e.g. Therapeutic Goods Administration

evaluates a range of **resources and technologies** intended to enhance population health outcomes	Students examine at least one resource and one technology to evaluate their efficacy and ethics/sustainability in enhancing the intended health outcomes for populations. The examination might be as a part of an empirical investigation or via a literature review. Students may also consider the ethics, assumptions, models and theories that underlie the technology or resource that may determine the output of the technology. It is a good idea to link this to the topics studied above so that the learning follows on and uses the prior learning. **Resources** • National Electronic Health Records • Population Health Management Platforms • Health Information hotlines **Technologies** • Predictive Analytics • Digital footprint • Social media/device ban • Mobile Health Apps • Geographic Information Systems • Telehealth Platforms Students might assess the technology through a practical test of it.
Skills	
Synthesises public health knowledge, understanding, and skills **to investigate problems** in population health in **both familiar and unfamiliar contexts.**	Students bring together knowledge to investigate a problem in population health. This can be linked to the topics outlined in the Knowledge and understanding CDs or a new topics could be introduced. This could be a foundational learning process or a capstone project for learning across the semester. However, as the CD calls for dealing with Unfamiliar Contexts, in any investigation there must be content or problems not covered in class but extends form or is related to the studied content, so the students' abilities to transfer their learning to the unfamiliar can be tested. This could be a comparative study of something new with something closely examined in class. **Possible Problems for Investigation** • Strengths and Weaknesses of Chronic Disease Management models- diet, exercise, access to healthcare • Infectious Disease Outbreaks and effectiveness of vaccination programs and public health interventions • Mental health issues in various populations • Rising obesity rates in urban Australia The format for the production could be in a range of formats such as sections of an exam, stimulus response in-class writing, debating, policy round table, take home with validation. Attention to academic integrity should be maintained.

Applies public health concepts to **create** evidence-informed, targeted and high-quality **plans** to achieve desired health outcomes for populations	Drawing on learning from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts and a chosen problem by creating plans to address them or uses them. The students work creatively to generate something new but draw on and refer to examples of similar plans encountered in class or in their research to prepare their plan. • Design a vaccination campaign to increase immunisation rates in a community • Obesity prevention programs • Plan for choice in aged care • Plans in Response to Problems Examples • Reviewing and validating an AI developed plan • Promoting Hand Hygiene in Primary Schools • Increasing Physical Activity in a Local Community • Encouraging Healthy Eating in a particular population • Promoting Sun Safety in Outdoor Workers
plans and undertakes independent enquiries and **critically analyses** relevant *data and information* based on **critical evaluation of valid and reliable sources**	**Drawing on learning** from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts/theories/models/strategies/principles and a chosen problem by gathering empirical data or using an existing data set to analyse trends, correlations, distributions etc. in the data and validates or challenges findings using established research on the problem. • statistical analysis • conduct own survey • representing data in engaging ways • correlation v causation **Sources of established Data Sets** ABS.gov.au- Australian bureau of Statistics sites AIHW.gov.au Australian Institute of Health and Welfare data sets repository WHO/OECD website data sets ACT Health Data Linkage Health Stats ACT Gov **OR** Students could design and carry out a low-risk scientific experiment. • Simulating viral infection • Hand hygiene experiment – UV gel • Step count challenge • Lung capacity before and after exercise Teachers should make reference to the BSSS Ethical Research Principles and Guidelines, in particular if any experiments are to involve human participants.

	OR rather than a quantitative data science approach, Students could undertake a literature review on the chosen problems and critically analyse by comparing perspectives and data to determine their own point of view on the problem. • Literature review of impact of air pollution on respiratory health • Social media critique of influence health advice and/or use of advice **Results** could be written in class. There could be validation tasks. There could be a viva voce on the results. This could be a section of an exam.
communicates effectively using a range of modes, mediums and technique for a variety of purposes, adhering to the principles of **academic integrity**	This will be measured as students' complete tasks indicated in other CDs. Communication modes are ideally from the discipline and authentically represent communication in Public Health Contexts. Care should also be taken to keep in mind vulnerability to AI cheating, or AI be harnessed in the generation of texts. This range also includes written and spoken exams. Note that exams can contain a variety of written formats or genres such as letters, promotional scripts, essays, client plans, case notes. Only three to five tasks are permitted in a 1.0 unit. **Examples of texts students can create** • Numerical comparisons and analysis of size and measurements • Interpreting and using graphs, tables and diagrams/ data • Representing and writing about population trends • Case studies of sub-sets of populations in an exam • Heath promotion podcasts • Face to face conversations/interviews • Small group seminars • Brochure for general audience- including rationale (Without rationale there is the danger that the brochure is too descriptive to allow students to achieve high grades) • Stimulus Response- essay, short responses, multiple choice, health related plan
applies interpersonal, intrapersonal, and leadership skills with **integrity and understanding of differences** to public health contexts	Students may show these people skills within the contexts of tasks. This will involve group tasks in which students demonstrate effective inter/intrapersonal skills, and leadership skills. Teachers will need to set up rubrics or observations opportunities that isolate the personal skills to make them assessable. Teachers will need to explicitly teach positive interaction/ leadership/ intrapersonal strategies and practices. Intrapersonal skills may need to be measured in combination with the reflection activities. **Examples of Tasks** • Students lead mini seminars/lessons of topics and take questions • Jigsaw activities joint research processes • Conducting an experimental study as a group • Fishbowl Activity • Leadership in theory/leadership scenarios in health programs in an exam or group discussion.

	Group tasks and allocated roles: • Run a health campaign within the school to lead the student body or other school health initiative • Reflect on bias in health messaging • Health Department Meeting with roles of minister, dep sec experts etc to decide on a policy outcomes
Reflects using evidence on public health knowledge, understanding and skills to make targeted and justified **proposals for improvement**	Either orally or in writing, as part of an investigation, experiment or- summative exam, or as a stand-alone summative task (e.g. journaling), students are required to **reflect** on planning, time management, and use of appropriate independent and collaborative work strategies. Some suggested methods for reflection include: • Yarning circles • Kolb's learning cycle • Rolfe's framework of reflective practice • Gibb's reflective cycle • Group/team reflection Students need explicit teaching on how to reflect and opportunities to practice and receive feedback prior to assessment of this skills.

The Environment and Health

Knowledge and Understanding

Content Description	Elaborations
critically analyses theories, concepts, **and** models about the environment to draw **informed and insightful conclusions** about their impact on health including Planetary Health and One Health	Establish student knowledge about the effect of the environment on health from F-10 studies. Research or present key theories that attempt to explain the determinants of health and analyse them to determine comparative validity by considering factors such as evidence base, logic, plausibility and correlation to lived experience. Key theories to consider are: **Planetary Health and One Health**. Theories might be accessed through academic texts or general Health textbooks written for senior secondary or junior college settings. Others might include: • Florence Nightingale's Environmental Theory • Planetary Health • One Health • Eco Health • Social cognitive theory Research and engage with debates over the meaning, significance and examples of use in regard to key concepts about environmental impact on health. Discuss how different theories use concepts differently in explaining health outcomes and place different emphases on the same concepts. Significant concepts employed by the theories above may include: • Sustainable development • Environmental determinants of Health - access to green spaces, water access, air quality/pollution • Natural and man-made disasters • Innovation – technology • Urban heat islands and climate change Investigate Models to understand their assumptions/axioms, research base and use in real-world policy and personal outcomes. Students access different perspectives and ideas about models to come to their own conclusions about the reliability and usefulness of models in explaining individual health outcomes. As models are complex and time consuming to investigate, it would be best to focus on one model. Models for investigation may include: • Climate change models and sea level mapping • Social-ecological model • Socio-Environmental Model of Health and Well-Being (ISEM)

	Resources Planetary Health – what it is and why it is important What is Planetary Health? One Health One Health Joint Plan of Action One Health: a key element in the WHO pandemic agreement Eco health alliance
critically analyses principles, strategies **and** methodologies about the interconnections between the environment and human health and **evaluates limitations and assumptions** of knowledge about, and inquiry into, these areas	Following on from understanding of theories, concept and models and consider continuing the chosen contexts by linking the theories, concepts and models to the principles, strategies, and methodologies with a common context. • Epidemiological Studies • Health Impact Assessments of urban planning • Evaluating predictive modelling such as for Climate Change • Sustainable development • Geospatial analysis • Toxicological research **Evaluate** *limitations and assumptions* by considering the axioms, evidence-base, the validity of theories/models underpinning the principles, strategies and methodologies and whether concepts have been used accurately and effectively in arguments.
critically analyses environmental health programs, problems or research methods and knowledge using the principles of **ethics or sustainability** to evaluate solutions	Examine one or more program, problem or research method used for individual health that follow on from the theories/strategies studied in the CDs above and critically analyse it by considering different critiques of the program, solutions to the problem or critique of particular methods so students can draw their own conclusions about the value and effectiveness of the topic study. Choose a problem, program or method that relates to the topics of study in the previous two CDs to ensure there is time to complete the unit. Some ideas for consideration include: • Strengths and weaknesses of observational Studies • Surveys and Questionnaires - Cause and correlation in statistical studies: misrepresenting findings e.g. Spurious correlations websites • Case Studies and general applicability: misrepresenting findings • Longitudinal Studies – scientific validity, research studies • Scientific Validity • Historical environmental failures e.g. Chernobyl, Exxon Valdez, Amazon Wildfires • Cost benefit analysis of technological solutions • Moral relationship between humans and the environment • Traditional knowledge and practices of land management • Air pollution reduction programs • Pesticide use in industrial agriculture • Use of AI in Predicting Disease Outbreaks from Environmental Data • Excursion to a relevant program, e.g. ACT tree planting program, Greening Australia tree planting, ANU Fenner Environmental Science School State of the Environment reports

evaluates a range of **resources and technologies** intended to enhance human health	Students examine at least one resource and one technology to evaluate their efficacy and ethics/sustainability in enhancing the intended health outcomes for individuals. The examination might be as a part of an empirical investigation or via a literature review. Students may also consider the ethics, assumptions, models and theories that underlie the technology or resource that may determine the output of the technology. It is a good idea to link this to the topics studied above so that the learning follows on and uses the prior learning. **Resources** • Sensors – Air Quality Monitors, Water Quality Sensors • Satellite- based remote sensing • Urban green spaces and nature-based solutions **Technologies** • Climate Monitoring • Renewable energy technologies • Water purification and sanitation technologies – e.g. UV filtration, bio sand filters • AI used in fire monitoring • Liquid trees or bioreactors • Green building design • Information and misinformation Students might assess the technology through a practical test of it.
Skills	
Content Description	**Elaborations**
synthesises public health knowledge, understanding and skills to **investigate** environmental factors that influence human health in familiar and unfamiliar contexts	Students bring together knowledge to conduct an investigation into a problem in individual health. This can be linked to the topics outlined in the Knowledge and understanding CDs or a new topics could be introduced. This could be a foundational learning process or a capstone project for learning across the semester. However, as the CD calls for dealing with Unfamiliar Contexts, in any investigation there must be content or problems not covered in class but extends form or is related to the studied content, so the students' abilities to transfer their learning to the unfamiliar can be tested. This could be a comparative study of something new with something closely examined in class. **Possible Problems for Investigation** • Air quality studies • Impact of contaminated water sources on community health e.g. Cholera outbreak in London • Explore how climate change is influencing the spread of vector-borne diseases • Investigate how different work environments affect workers' health • Examine how food production and handling practices impact health. **Resources** Impact of Rising CO_2 on Food Security and Human Health Risks and Potential Adaptation Strategies

applies public health concepts to **create** evidence-informed, targeted and high-quality **plans** addressing environmental issues to improve health outcomes	Drawing on learning from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts and a chosen problem by creating plans to address them or uses them. The students work creatively to generate something new but draw on and refer to examples of similar plans encountered in class or in their research to prepare their plan. • Plans to reduce air pollution in a city • Safe drinking water in a community • Health Impacts of Climate Change • Improve waste management practices in a community • Reduce noise pollution in urban areas
plans and undertakes independent enquiries and critically analyses relevant data and information based on critical **evaluation of valid and reliable sources**	**Drawing on learning** from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts/theories/models/strategies/principles and a chosen problem by gathering empirical data or using an existing data set to analyse trends, correlations, distributions etc. in the data and validates or challenges findings using established research on the problem. • statistical analysis • conduct own survey • representing data in engaging ways **Sources of established Data Sets** ABS.gov.au- Australian bureau of Statistics sites AIHW.gov.au Australian Institute of Health and Welfare data sets repository WHO/OECD website data sets Australian State of the Environment Report **OR** Students could design and carry out a low-risk scientific experiment. • Macroinvertebrates study • Air quality study Teachers should make reference to the BSSS Ethical Research Principles and Guidelines, in particular if any experiments are to involve human participants. **OR** rather than a quantitative data science approach, Students could undertake a literature review on the chosen problems and critically analyse by comparing perspectives and data to determine their own point of view on the problem. • literature review of impact of temperature of disease spread • social media critique of influence health advice and/or use of advice

communicates effectively using a range of modes, mediums and technique for a **variety of purposes**, adhering to the principles of academic integrity	This will be measured as students complete tasks indicated in other CDs. Communication modes are ideally from the discipline and authentically represent communication in Public Health Contexts. Care should also be taken to keep in mind vulnerability to AI cheating, or AI be harnessed in the generation of texts. This range also includes written and spoken exams. Note that exams can contain a variety of written formats or genres such as letters, promotional scripts, essays, client plans, case notes. Only three to five tasks are permitted in a 1.0 unit. **Examples of texts students can create** • Stimulus response paper • Interpreting and using graphs, tables and diagrams/ data • Brochure for general audience- including rationale, (Without rationale there is the danger that the brochure is too descriptive to allow students to achieve high grades) • Presentation/conference poster for expert audience • Interview with Teacher • Research report • Experimental Report • Essay • Editorial writing • News Feature • Stimulus Response- essay, short responses, multiple choice, health related plan • Seminar
applies interpersonal, intrapersonal, and leadership skills with **integrity and understanding of differences** to environment related health contexts	Students may show these people skills within the contexts of tasks. This will involve group tasks in which students demonstrate effective inter/intrapersonal skills, and leadership skills. Teachers will need to set up rubrics or observations opportunities that isolate the personal skills to make them assessable. Teachers will need to explicitly teach positive interaction/ leadership/ intrapersonal strategies and practices. Intrapersonal skills may need to be measured in combination with the reflection activities. **Examples of Tasks** • Group tasks and allocated roles • Environmental impact statement • Risk assessment of environmental impacts and risk mitigation strategies for school • Students lead mini-seminars/lessons of topics and take questions • Jigsaw activities joint research processes • Conducting an experimental study as a group • Fishbowl Activity • Leadership in theory/leadership scenarios in health programs in an exam or group discussion.

Reflects using evidence on environment related health knowledge, understanding and skills to make **targeted and justified proposals** for individual and societal improvement	Either orally or in writing, as part of an investigation, experiment or- summative exam, or as a stand-alone summative task (e.g. journaling), students are required to **reflect** on planning, time management, and use of appropriate independent and collaborative work strategies. Some suggested methods for reflection include: • Yarning circles • Kolb's learning cycle • Rolfe's framework of reflective practice • Gibb's reflective cycle • Group/team reflection Students need explicit teaching on how to reflect and opportunities to practice and receive feedback prior to assessment of this skills.

Global Health and Human Development

Knowledge and Understanding

Content Description	Elaborations
critically analyses theories, concepts, **and** models of global health **to draw informed and insightful conclusions** about how they promote health and sustainable human development	Establish student knowledge about the determinants of global health from F-10 studies. Research or present key theories that attempt to explain the determinants of global health and analyse them to determine comparative validity by considering factors such as evidence base, logic, plausibility and correlation to lived experience. Theories might be accessed through academic texts or general Health textbooks written for senior secondary or junior college settings: • Social-Cognitive Theory • Theory of unintended consequences of social action • Theory of social construction of reality • Theory of social suffering Research and engage with debates over the meaning, significance and examples of use in regard to key concepts in individual health. Discuss how different theories use concepts differently in explaining health outcomes and place different emphases on the same concepts. Significant concepts employed by the theories above may include: • Role and function of the UN and WHO • Global Health Governance • Health equity-generic drug manufacturing • Community Health Programs/ Bottom-up approach • Preventative and curative interventions • Quarantine models Investigate Models to understand their assumptions/axioms, research base and use in real-world policy and personal outcomes. Students access different perspectives and ideas about models to come to their own conclusions about the reliability and usefulness of models in explaining individual health outcomes. As models are complex and time consuming to investigate, it would be best to focus on one model. Models for investigation may include: • Models of Health Care System - Beveridge Model, Bismark Model, National Health Insurance Model and Out of pocket model • Positive v negative • Preventative v curative • Biomedical v social models of health **Resources** VCE Textbook, Australian Institute of Health and Welfare, Department of Aged Care, Open Source Health textbooks, VCE/WACE/HSC/SACE past exam paper repositories.

critically analyses principles, strategies **and** methodologies used to address global health and **evaluates limitations and assumptions** of knowledge about, and inquiry into, these areas	Following on from understanding of theories, concept and models and consider continuing the chosen contexts by linking the theories, concepts and models to the principles, strategies, and methodologies with a common context. • Health indicators • Foreign aid • UN sustainable development goals to 2030 • Moments in history impacting global health-eradication of smallpox • Red Cross • Montreal Protocol • International Health Regulations, globalisation and disease • Ideology impacting on aid and health programs • CDC's Global Health Strategic Framework • 10 Guiding principles for Global health Strengthening **Evaluate** *limitations and assumptions* by considering the axioms, evidence-base, the validity of theories/models underpinning the principles, strategies and methodologies and whether concepts have been used accurately and effectively in arguments.
critically analyses global health programs, problems or research methods and knowledge using the principles of **ethics or sustainability to evaluate solutions**	Examine one or more program, problem or research method used for global health that follow on from the theories/strategies studied in the CDs above and critically analyse it by considering different critiques of the program, solutions to the problem or critique of methods so students can draw their own conclusions about the value and effectiveness of the topic study. Choose a problem, program or method that relates to the topics of study in the previous two CDs to ensure there is time to complete the unit. Some ideas for consideration include: • Strengths and weaknesses of Observational Studies • Surveys and Questionnaires • Case Studies • Longitudinal Studies • Scientific Validity • Historical trends • Ethics of foreign aid health programs-self-interests and altruism • Metrics for success of global programs • Randomised controls • Western biomedical model v Indigenous knowledge • Excursion to a relevant program, e.g. DFAT Aid program coordinators, Red Cross • Fund Raising Practical for MSF etc. • Engineers without Borders incursion

evaluates a range of **resources and technologies** intended to enhance global health outcomes	Students examine at least one resource and one technology to evaluate their efficacy and ethics/sustainability in enhancing the intended health outcome globally. The examination might be as a part of an empirical investigation or via a literature review. Students may also consider the ethics, assumptions, models and theories that underlie the technology or resource that may determine the output of the technology. It is a good idea to link this to the topics studied above so that the learning follows on and uses the prior learning. **Resources** • Non-temperature sensitive vaccines • Food aid • Genetic screening programs • Global Health information platforms – WHO'S Global Health Observatory or Health map • Medical supply chain innovations • Community health worker programs **Technologies** • Water Purification Technologies • Digital Health platforms • Mobile phone-based information and analysis programs • Altruistic medical research/Neglected Tropical Diseases- podoconiosis, bilharzia, river blindness • Next generation pharmaceuticals • Digital therapies • Digital health applications in managing communicable diseases • Big data analytics
Skills	
synthesises public health knowledge, understanding and skills to **investigate global factors** that influence health **and** sustainable human development	Students bring together knowledge to conduct an investigation into a problem in global health. This can be linked to the topics outlined in the Knowledge and understanding CDs or a new topics could be introduced. This could be a foundational learning process or a capstone project for learning across the semester. However, as the CD calls for dealing with Unfamiliar Contexts, in any investigation there must be content or problems not covered in class but extends form or is related to the studied content, so the students' abilities to transfer their learning to the unfamiliar can be tested. This could be a comparative study of something new with something closely examined in class. **Possible Problems for Investigation** • Investigating a disease outbreak • Model or map temperature/weather changes and effect on disease vectors spread such as malaria into Northern Australia • Data analysis to map global economic inequalities and health outcomes • Evaluate Australia's implementation of Sustainable Development Goals (SDGs) to 2030 • Global pandemics and response

applies public health concepts to **create** evidence-informed, targeted and high-quality **plans** to achieve desired health outcomes globally	Drawing on learning from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts and a chosen problem by creating plans to address them or uses them. The students work creatively to generate something new but draw on and refer to examples of similar plans encountered in class or in their research to prepare their plan. • Plans in Response to Problems Examples • Culturally appropriate Vaccination campaigns • Fund raising for anti-malaria programs • Evaluate material for improving promotion of maternal and child programs
plans and undertakes independent enquiries and critically analyses relevant data and information based on critical evaluation **of valid and reliable sources**	**Drawing on learning** from the Knowledge and Understanding strands topics, students demonstrate understanding of concepts/theories/models/strategies/principles and a chosen problem by gathering empirical data or using an existing data set to analyse trends, correlations, distributions etc. in the data and validates or challenges findings using established research on the problem. • statistical analysis e.g. burden of disease, geographic distribution of health outcomes • conduct own survey • representing data in engaging ways-e.g. *Information is Beautiful* website **Sources of established Data Sets** ABS.gov.au- Australian bureau of Statistics sites AIHW.gov.au Australian Institute of Health and Welfare data sets repository WHO/OECD website data sets ACT Health Data Linkage Global Health Observatory **OR** Students could design and carry out a low-risk scientific experiment. • Hand washing procedures and UV lights Teachers should make reference to the BSSS Ethical Research Principles and Guidelines, in particular if any experiments are to involve human participants. **OR** rather than a quantitative data science approach, students could undertake a literature review on the chosen problems and critically analyse by comparing perspectives and data to determine their own point of view on the problem. • Millennium development goals/sustainable development goals promotion evaluation • social media critique of influence health advice and/or use of advice • access to vaccines globally • gender and health outcomes

communicates effectively **using a range** of modes, mediums and technique for a **variety of purposes,** adhering to the principles of academic integrity	This will be measured as students complete tasks indicated in other CDs. Communication modes are ideally from the discipline and authentically represent communication in Global Health Contexts. Care should also be taken to keep in mind vulnerability to AI cheating, or AI be harnessed in the generation of texts. This range also includes written and spoken exams. Note that exams can contain a variety of written formats or genres such as letters, promotional scripts, essays, client plans, case notes. Only three to five tasks are permitted in a 1.0 unit. **Examples of texts students can create** • Information website creation • Class debate • Promotion material • Interpreting and using graphs, tables and diagrams/ data • Brochure for general audience- including rationale, (Without rationale there is the danger that the brochure is too descriptive to allow students to achieve high grades) • Presentation/conference poster for expert audience • Interview with Teacher • Research report • Experimental Report • Essay • Editorial writing • News Feature • Stimulus Response- essay, short responses, multiple choice, health related plan • Seminar • Literature review
applies interpersonal, intrapersonal, and leadership skills with **integrity and understanding of differences** to global health contexts	Students may show these people skills within the contexts of tasks. This will involve group tasks in which students demonstrate effective inter/intrapersonal skills, and leadership skills. Teachers will need to set up rubrics or observations opportunities that isolate the personal skills to make them assessable. Teachers will need to explicitly teach positive interaction/ leadership/ intrapersonal strategies and practices. Intrapersonal skills may need to be measured in combination with the reflection activities. **Examples of Tasks** • Group tasks and allocated roles • Promotional or fund-raising activities • Lobbying for government policy change • Simulated global conference • Students lead mini seminars/lessons of topics and take questions • Jigsaw activities joint research processes • Conducting an experimental study as a group • Fishbowl Activity • Leadership in theory/leadership scenarios in health programs in an exam or group discussion.

Reflects using evidence on global health knowledge, understanding and skills to make **targeted and justified proposals** for improvement and personal actions	Either orally or in writing, as part of an investigation, experiment or- summative exam, or as a stand-alone summative task (e.g. journaling), students are required to **reflect** on planning, time management, and use of appropriate independent and collaborative work strategies. Some suggested methods for reflection include: • Yarning circles • Kolb's learning cycle • Rolfe's framework of reflective practice • Gibb's reflective cycle • Group/team reflection Students need explicit teaching on how to reflect and chance to practice and receive feedback prior to assessment of this skills.


BSSS
AUSTRALIAN CAPITAL TERRITORY