2007 Yr 9 -13 Generic and Domain Competencies Sep 2007

HNHS Technology Mission Statement

- To provide individual students with the opportunity to achieve to their highest abilities, effectively communicate knowledge and skills and be adaptable to different contexts and environments through engagement in technology education

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Key Competencies	**Year 13**	**Year 12**	**Year 11**	**Year 10**	**Year 9**
Issue/context	Authentic client based context and issue established by the student.	Teacher given broad context from which students identify an issue to solve.	Teacher given context and generic issue from which students can identify an issue to solve.	Teacher given context and issue	Teacher given context and issue
Brief Development	Students identify client context and issue. Identify needs or opportunity in order to write a conceptual statement. Broader, Knowledge and Stakeholder key factors are established as a result of research and analysis of client and wider stakeholder requirement, environment/occasion/location. Student communicates an initial brief and initial specifications based on key factors. Student develops brief and specifications as based on new understandings. Write a final brief and specification which accurately describes the final solution and its ongoing viability. The brief addresses the issue and concerns of the client key stakeholders.	Students identify own issue from a class context and identify needs or opportunity in order to write a conceptual statement. Broader, Knowledge and Stakeholder key factors are established as a result of research and analysis of key and wider stakeholder requirement, environment/occasion/location. Student communicates an initial brief and initial specifications based on key factors. Student develops brief and specifications as based on new understandings. Write a final brief and specification which accurately describes the final solution and its ongoing viability. The brief addresses the issue and concerns of key stakeholders.	Students work from a class brief and identify needs or opportunity in order to write a conceptual statement. Key factors are established as a result of research and analysis of stakeholder requirement, environment/occasion/location. Student communicates an initial brief and initial specifications based on key factors. Student develops brief and specifications as based on new understandings. Write a final brief and specification which accurately describes the final solution and enables the student and others to evaluate the outcome within its stated location.	Develop a initial brief having identified a stakeholder (can be the student, a class need, competition etc.) need or opportunity. Identify initial specifications from initial information. Write a final brief and specification which accurately describes the final solution and enables the student to evaluate the outcome having consulted stakeholder(s.)	Initial Brief Final Brief/Specs

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Planning	Initial planning of time and resources. Then student selects from a range of planning tools and evaluates and justifies the effectiveness of their planning and their practice. Ongoing planning includes accessing and sourcing of resources.	Initial planning of time and resources. Working planning using a range of planning tools and evaluation of key stages including resources. Student reflections on key decisions inform next steps of practice.	Initial planning of time and resources. Working planning using a range of planning tools and evaluation of key stages including resources and key decisions to inform next steps of practice.	Time management of key stages and resources including stakeholders. Ongoing planning and evaluation.	Teacher directed planning of time and actual time.
Working with/consideration of Stakeholders	Client provides the need or opportunity. Student justifies choice of key and wider stakeholders and their use/non use of feedback. Wider community stakeholders (who may directly or indirectly influence the outcome) opinion considered throughout tech. practice. Ongoing and final evaluation shows student understanding of client/key and wider stakeholder feedback.	Key stakeholders provides the need or opportunity. Student justifies choice of stakeholders and their use/non use of feedback. Wider community stakeholders (who may directly or indirectly influence the outcome) opinion considered throughout tech. practice. Ongoing and final evaluation shows student understanding of key and wider stakeholder feedback.	Key stakeholders provides the need or opportunity. Wider stakeholders opinion considered throughout tech. practice. Ongoing and final evaluation shows student understanding of wider stakeholder feedback.	Key stakeholder provides the need or opportunity. Wider stakeholders (a peer and an adult) involved in evaluative process. Ongoing and final evaluation shows student understanding of wider stakeholder feedback.	Stakeholders identified as having a vested interest in the outcome
Use Mockup and Models to test and communicate ideas	Use 2D and 3D mockups to test design ideas Exploration of design and technological principles to test for fitness to purpose and minimise risk. Test and communicate the functional and aesthetic qualities and viability of component parts and/or a potential technological solution.	Use 2D and 3D mockups to test design ideas Exploration of techniques to test for fitness to purpose. Test and communicate the functional and aesthetic qualities and viability of component parts and/or a potential technological solution.	Use 2D and 3D mockups to test design ideas Exploration of techniques to test for fitness to purpose. Test and communicate the functional and aesthetic qualities of component parts and/or a potential technological solution.	Use 2D and 3D mockups to test design ideas e.g. Exploration of techniques to test for fitness to purpose, templates, trialling and testing components.	Use 2D mockups to test design idea Use ingredients to test and trial (food)

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Graphic Communication Skills	2D and/or 3D freehand sketching that communicate: • Form, function and design features of potential solutions-annotations • design features of their technological solutions to key stakeholders • use of texture and tonal rendering techniques • working drawing • presentation of storyboard to client	2D and/or 3D freehand sketching that communicate: • Form, function and design features of potential solutions-annotations • design features of their technological solutions to key stakeholders • use of texture and tonal rendering techniques • working drawing	2D and/or 3D freehand sketching that communicate: • Form, function and design features of potential solutions-annotations • design features of their technological solutions to key stakeholders • use of texture and tonal rendering techniques • working drawing	2D and/or 3D freehand sketching that communicate: • Page layout (develop key ideas across areas) • Consistency in presentations • design ideas of potential solutions-annotations • design features of their technological solutions-annotations • working drawing • consideration of A3 to show graphical communication, brief, specs, evaluation, photo (for portfolio) A4 boards (summary of practice)	2D freehand sketching that communicate: • design ideas of potential solutions; and • design features of their technological solutions

Understanding technological terms	As for Year 11 and 12 but new terminology is context related and client issue driven. Context/Client Issue Client Brief Location/Occasion Conceptual Statement Research Brief Development-ongoing Client/key/widerStakeholders Key factors (Broader/Stakeholder/Knowledge) Needs/ Opps Planning Planning tools Concepts model/prototype/testing/trialling/optimisation Development Working/final drawing Implement/ Technological practice Technological solution Technological knowledge Fitness to Purpose Future Viability Evaluation	As for Year 11 but can identify and explain new terminology linked to an identified issue within a given context. Context/Given Issue Class Brief Own Issue Location/Occasion Conceptual Statement Research Brief Development-ongoing Attributes/Specifications Stakeholders-key and wider Key factors (Broader/Knowledge and stakeholder) Needs/Opps Planning Planning tools Concepts model/prototype/ testing/trialling Development Working/final drawing Implement Technological practice Technological solution Technological knowledge Fitness to purpose Future viability Evaluation	Learns key terminology and applies on a 'needs to know basis' within own practice. Context/Given Issue Class Brief Location/Occasion Conceptual Statement Research Brief Development Attributes/Specifications Stakeholders Key factors Needs/Opps Planning Planning tools Concepts Model/prototype/testing/trialling Development Working/final drawing Implement Technological practice Technological solution Technological knowledge Fitness to purpose Evaluation	Defines and uses the terms within tech. practice and practice is extended to include terms associated with a wider range of knowledge and skills Year 10 Technology Cycle Context Research Planning and identifying resources. Stakeholders Needs/Opps Brief Development Attributes/Specs Concepts Development Final Design/Working Drawing Mock up/trial/test Outcome Tested in location or similar Evaluation for fitness to purpose	Recognise and use the terminology within own practice with guidance from the teacher. The Technology Cycle Given Issue Class Brief Stakeholder Initial Brief Concepts Development Attributes/Specs Final Design/Working Drawing Mock up/trial/test Planning Outcome/Solution Evaluation

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Problem solving Teaching Strategies to be shared	identifying and solving problems by critically reflecting on their own practice and being accountable to a client.	More independent problem solving on a 'needs basis' More testing and trialling of key ideas and linking practice of technologists to won practice.	Informed problem solving in a structured teaching environment from delivery of the Class brief to the completion of the solution.	Opportunities for student to problem solve when designing and processing during development.	Teacher driven problem solving
Practical skills: **manipulation/ finishing/ processing within a Safe working environment.** Specialist teachers to identify	An increasing range of complex and specialist skills, independently generated within a safe working environment	→	→	Skills to enhance and develop student capability from year 9.	A limited range of skills directly linked to the stage of physical development of the students with emphasis on correct and safe use application
Domain Knowledge				Knowledge relevant to student practice	Knowledge relevant to student practice
Information screening **Surveying techniques** **Data analysis** **Research skills** **Exploring existing outcomes**	/		--research skills electronic and hard copy -use of evaluation tools -attribute chart/concept screening -summarise data analysis -application of information to developing outcome	-research skills -hard copy -attribute chart/concept screening	-questionnaires

Informed planning and targeted research from a range of sources-analysis of findings with reflection/evalution on own student practice

Constraints on technologists practice (ethical, moral, codes of practice)	As for year 11 and broader view of constraints on technological practice of experts in the community		-legal constraints -safe practices -quality control -facilities -cultural	-safe practice(Codes of Practice) -quality control within own practice	-safe practice
Nature of Technology **Technological Knowledge**	To be developed To be developed				