

Formulating cosmetic and personal care products can be as varied as the companies who offer them.

**10453NAT The Diploma of Personal Care Formulation** has been developed to provide a comprehensive approach to teaching the formulation of safe, stable and efficacious personal care products for the hair, hands, body and face. It also covers the development of products from the concept stage and through reverse engineering.

Learners are taught how to prepare a variety of personal care products, adapt formulations to suit organisational requirements and develop products based on the latest industry advances.

**On successful completion of this course, learners will be able to:**

- Develop safe, stable and effective formulas for a range of personal care products
- Provide technical documents to support the safety, stability and performance claims of a product
- Develop products from a product development brief and communicate necessary changes
- Accommodate industry innovations into formulations without impacting on stability
- Reverse engineer and/or adapt formulations to suit company requirements
- Satisfy safety and regulatory obligations in the development of cosmetic and personal care products

Successful completion of this course leads to the issuance of an AQF Diploma and entitles learners to the letters Dip Form Chem and the title 'Cosmetic Chemist' or 'Formulation Chemist'.

**This course will benefit the following careers:**

- Research and Development Scientists
- Formulating Chemists
- Production/Compounding Managers and assistants
- Regulatory Affairs personnel dealing with product safety, claims and ingredient compliance

**This course is ideal for:**

- Research and Development personnel
- Compounding personnel
- Raw material suppliers
- Product development personnel in the practical development of products
- Technical staff involved in practical development and/or manufacturing

**Duration**

- This course consists of 18 units of competency
- Full time and part time options

**Training and assessments:**

- The course comprises of 4 text books provided as part of the enrolment package
- On-line lectures to support learning and activities within the texts
- Box of raw materials and packaging to work through various practical activities and prepare assessment samples
- 3 written assessments comprising of theoretical questions and workplace simulated scenarios
- Submission of practical samples with relevant stability and technical information
- Hands on practical workshops to consolidate skills in development and formulation of various products
- Online exam

**What you'll need**

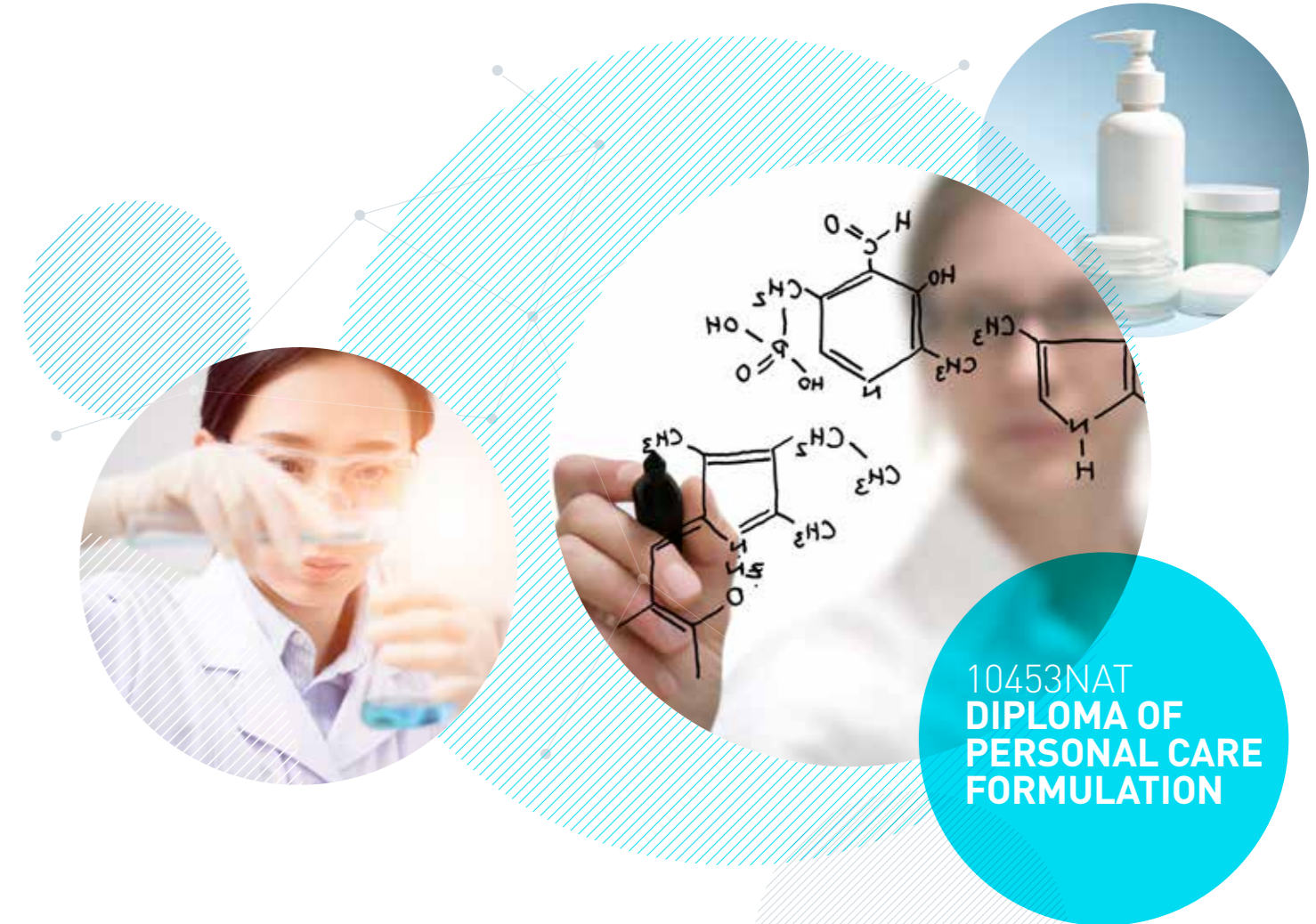
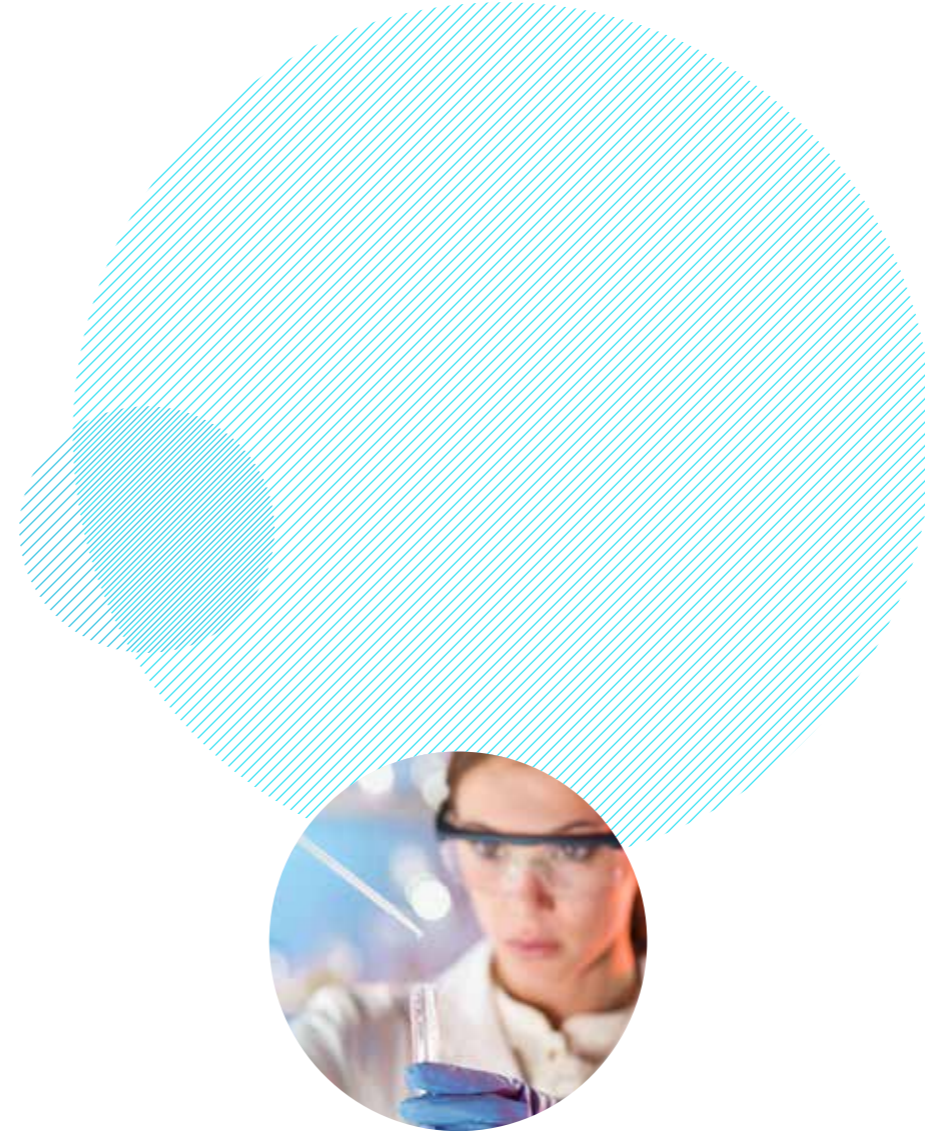
You will need to purchase or have access to the following equipment (this list is provided for those students who do not have access to specialised equipment and are studying in a home-based situation):

- Scales that measure in 0.1g or 0.01g increments
- 3 x 1.1L stainless steel mixing bowls
- 1 x 8 wire whisk (250 – 300mm)
- 2 hot plates (or normal stove top)
- White Lab Coat for formulating workshops



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**10453NAT  
DIPLOMA OF  
PERSONAL CARE  
FORMULATION**

COURSE  
OUTLINE



## MODULE 1 COURSE UNITS

UNIT CODE & SUMMARY	UNIT DESCRIPTION
Evaluate the functions of ingredients in personal care products (PCFFUN501A)	Covers the origin and functions of the common ingredients used in personal care products for an understanding of what gets used in products and why. Learn how to: <ul style="list-style-type: none"> <li>accurately identify what constitutes 'organic', 'natural' and 'synthetic' ingredients and processing</li> <li>investigate and evaluate the origins and functions of the many and varied ingredients used in personal care products</li> <li>apply this knowledge when promoting products in the market place.</li> </ul>
Evaluate the safety of a product formulation (PCFSAF502A)	Covers the responsibility of organisations pertaining to, and regulations governing the safety of, personal care products. Learn how to: <ul style="list-style-type: none"> <li>identify irritant and allergen reactions of consumers</li> <li>identify and reduce the irritancy and allergen profile of a personal care product</li> <li>effectively evaluate potential safety issues pertaining to various personal care products.</li> </ul>
Apply compliance requirements to ingredient selection (PCFCIC503A)	Teaches how to identify compliance requirements for appropriate ingredient selection; incorporating searches involved to determine compliance requirements. Learn how to: <ul style="list-style-type: none"> <li>search compliance requirements of AU, EU, US and JP</li> <li>select ingredients in accordance with compliance requirements</li> <li>report ingredient use as and when required.</li> </ul>
Apply chemistry principles to ingredient selection (PCFCHE504A)	Covers identifying basic chemistry principles, common processes used to produce raw materials, methods used for testing of raw materials and finished products, and how to apply these principles and processes when selecting ingredients for personal care products. Learn how to: <ul style="list-style-type: none"> <li>conduct various analytical test methods used in the personal care industry</li> <li>select ingredients based on their chemical classification, processing methods used in their development, and application in the finished product formula.</li> </ul>
Apply microbiology techniques for product safety (PCFMIC505A)	Covers the identification of microbiological concerns specific to personal care products; and the application of Good Manufacturing Practice [GMP] principles to ensure product safety. Learn how to: <ul style="list-style-type: none"> <li>test raw materials, products, equipment and the facility for microbial presence</li> <li>identify methods to reduce microbiological burden with in the facility and finished products using GMP.</li> </ul>
Select appropriate preservatives in personal care formulations (PCFPRE506A)	Covers the identification and selection of appropriate preservatives in the development of personal care formulations. It also covers aspects such as self-preserving formulas, use of antioxidants and other agents to prolong shelf life, and challenge testing. Learn how to: <ul style="list-style-type: none"> <li>identify and evaluate the suitability of various preservatives in their application to a personal care formulation</li> <li>select appropriate preservatives for a variety of personal care products and applications.</li> </ul>



## MODULE 2 COURSE UNITS

UNIT CODE & SUMMARY	UNIT DESCRIPTION
Select appropriate gums and thickeners for personal care formulas (PCFGUM507A)	Covers the evaluation and selection of appropriate gums and thickeners for use in a variety of personal care formulations. Learn how to: <ul style="list-style-type: none"> <li>determine suitable aspects of flow</li> <li>investigate, evaluate and select gums and thickeners to suit the specific needs of various product formulations.</li> </ul>
Select appropriate lipids for personal care formulas (PCFLIP508A)	Covers the evaluation and selection of appropriate lipids for use in a variety of personal care formulations. Learn how to: <ul style="list-style-type: none"> <li>recognise the consistency altering, emollient and skin feel properties of various lipids</li> <li>investigate, evaluate and select lipids to suit the specific needs of various product formulations</li> </ul>
Select appropriate fragrances and essential oils for personal care formulas (PCFFRA509A)	Covers the evaluation and selection of appropriate fragrances or essential oils for use in a variety of personal care formulations. Learn how to: <ul style="list-style-type: none"> <li>understand the chemistry of fragrance and language of aroma</li> <li>blend essential oils for aesthetically pleasing and more stable aroma profiles</li> <li>incorporate fragrance into product formulations</li> <li>investigate and determine the safety aspects and usage rates for various product types</li> <li>select fragrances or essential oils to suit various product formulations.</li> </ul>
Apply colloid science to formulate personal care products (PCFCOL510A)	Covers the application of colloid science to formulate a variety of safe, effective and stable personal care products. Learn how to: <ul style="list-style-type: none"> <li>improve the stability of colloidal systems, including emulsions and dispersions</li> <li>predict colloidal and emulsion properties</li> <li>process using suitable manufacturing (compounding) methods</li> <li>select appropriate materials to create your emulsion/colloidal system</li> <li>formulate a variety of personal care products involving the mixing of two or more normally immiscible substances.</li> </ul>
Apply surface science to formulate personal care products (PCFSUR511A)	Covers the chemistry of surface science and how it applies to formulating safe, effective, stable personal care products. Learn how to: <ul style="list-style-type: none"> <li>predict surfactant properties</li> <li>formulate with surfactants to attain specific performance attributes</li> <li>determine starting materials and biodegradability of surface active agents</li> <li>select suitable surfactants to formulate a variety of surfactant based personal care products.</li> </ul>
Apply aerosol technology to personal care products (PCFAER512A)	Covers the ingredients, components, presentation, testing and technology involved in developing aerosol products for the personal care industry. Learn how to: <ul style="list-style-type: none"> <li>determine suitable ingredients and packaging components used in aerosol products</li> <li>conduct manufacturing and quality testing of aerosol products</li> <li>develop aerosol formulations for a range of personal care products.</li> </ul>



## MODULE 3 COURSE UNITS

UNIT CODE & SUMMARY	UNIT DESCRIPTION
Develop stable product formulations (PCFSTA513A)	Covers the methods used to test the stability of products for determination of appropriate shelf life. Learn how to: <ul style="list-style-type: none"> <li>examine formulas to determine factors contributing to instability and methods to correct these factors</li> <li>develop appropriate stability protocols to ensure performance characteristics of products are maintained over their shelf life</li> <li>formulate to accommodate the stability needs of various products</li> <li>test the stability of a variety of personal care products.</li> </ul>
Develop a product from a product development brief (PCDFB517A)	Covers the development of products from a product development brief to meet specific organisational needs and preferences for a variety of personal care products. Learn how to: <ul style="list-style-type: none"> <li>investigate and determine legal and ethical responsibilities associated with product development</li> <li>calculate product manufacturing costs and steps involved in finalizing the development process to yield a suitable finished product sample</li> <li>develop the paperwork required to finalise a variety of products</li> <li>use the brief as a point of discussion with the organisation members who originated it.</li> </ul>
Apply skin physiology to formulate basic skin care (PCFSKI514A)	This unit covers the physiology of the skin and brings together prior learning to enable learners to create finished product formulations. Learn how to: <ul style="list-style-type: none"> <li>formulate a range of basic skin care formulations such as cleansers, exfoliants and moisturisers for the face and body; products to address the special needs of baby, aged and male skin; nail and hand care; as well as oral care and personal hygiene products such as deodorants and anti-perspirants.</li> </ul>
Apply hair physiology to formulate basic hair care (PCFHAI515A)	Covers the application of hair care formulations to be compatible with the hair's physiology and brings together prior learning to enable learners to create finished product formulations. Learn how to: <ul style="list-style-type: none"> <li>formulate a range of basic hair care products to care for, and style, the hair; such as shampoos and conditioners for a variety of hair types; mousses, hairspray, pomades and gels.</li> </ul>
Apply specialty ingredients to formulate specialty skin and hair care products (PCFSPE516A)	Covers the investigation and evaluation of ingredients for specialty skin and hair care formulations and brings together prior learning to enable learners to create finished product formulations. Learn how to: <ul style="list-style-type: none"> <li>consider the physiological effects specialty ingredients have on the hair and skin</li> <li>investigate and determine required legislative, safety and formulation requirements involved when using specialty ingredients</li> <li>formulate a variety of specialty skin and hair care products such as skin tanning, skin whitening, sun care, advanced anti-ageing, skin firming, hair colourants, permanent waving solutions and depilatory agents</li> </ul>
Develop a product through reverse engineering (PCFREV518A)	Covers the development of products from the ingredients panel and sample of finished product. Learn how to: <ul style="list-style-type: none"> <li>determine when it is suitable to reverse engineer products, as well as the legal and ethical implications of reverse engineering</li> <li>keep abreast of the latest industry advances</li> <li>effectively develop products through reverse engineering.</li> </ul>



## MODULE 1 STUDY SCHEDULE

CODE	UNIT OF COMPETENCY	STUDY WK/ COMMENCING	ASSESSMENT DUE
PCFFUN501A	Evaluate the functions of ingredients in personal care products	Wk 1	
PCFSAF502A	Evaluate the safety of a product formulation	Wk 3	
PCFCIC503A	Apply compliance requirements to ingredient selection	Wk 5	
PCFCHE504A	Apply chemistry principles to ingredient selection	Wk 7	Assessment 1: (Module 1) Due end of week 14 from start date
PCFMIC505A	Apply microbiology techniques for product safety	Wk 9	
PCFPRE506A	Select appropriate preservatives in personal care formulations	Wk 11	
	Work on Assessment 1	Wk 13	



## MODULE 2 STUDY SCHEDULE

CODE	UNIT OF COMPETENCY	STUDY WK/ COMMENCING	ASSESSMENT DUE
PCFGUM507A	Select appropriate gums and thickeners for personal care formulas	Wk 15	
PCFLIP508A	Select appropriate lipids for personal care formulas	Wk 17	
PCFFRA509A	Select appropriate fragrances and essential oils for personal care formulas	Wk 19	Assessment 2: (Module 2) Due end of week 28 from start date
PCFCOL510A	Apply colloid science to formulate personal care products	Wk 21	
PCFSUR511A	Apply surface science to formulate personal care products	Wk 23	
PCFAER512A	Apply aerosol technology to personal care products	Wk 25	
	Work on Assessment 2	Wk 27	

## MODULE 3 STUDY SCHEDULE

CODE	UNIT OF COMPETENCY	STUDY WK/ COMMENCING	ASSESSMENT DUE
PCFSTA513A	Develop stable product formulations	Wk 29	
PCDFB517A	Develop a product from a product development brief	Wk 31	
PCFSKI514A	Apply skin physiology to formulate basic skin care	Wk 33	
PCFHAI515A	Apply hair physiology to formulate basic hair care	Wk 36	Practical Assessment and Assessment 3: (Module 3) Due end of week 44 from start date
PCFSPE516A	Apply specialty ingredients to formulate specialty skin and hair care products.	Wk 39	
PCFREV518A	Develop a product through reverse engineering	Wk 42	
	Work on Practical Assessment items	Wk 44	