

# Degrees of WOO

Tim Mendham

investigates unnatural sciences in our universities.

When the Royal Melbourne Institute of Technology announced last year that it was conducting what it says was an Australian and possibly world-first university study into Power Balance bands, we were pleased that there was at least going to be a proper scientific assessment of the bands' supposed efficacy.

But what further intrigued us was that all three researchers on the project were chiropractors from the university's chiropractic courses.

By all events, the trial was conducted properly and scientifically, including double blind tests on its 40 volunteers, and a computerised dynamic 'posturography' device that measures balance and stability. The study, not surprisingly, came to the conclusion that the bands did not do what they said they did. Dr Rachael Dunlop interviewed the chief researcher, Dr Simon Brice, the result of which can be heard on the SkepticZone podcast #130 ([www.skepticzone.tv](http://www.skepticzone.tv)).

Some might assume, however, that a test by chiropractors on a product to help one's balance could be a case of checking out the competition – something about pots and kettles. To be fair, chiropractic probably does have some benefit as a lower back pain relief. It's the other effects claimed for chiropractic where we find the 'woo'.

This led us to a concern that many have had for a while and that is the creeping of pseudoscientific subjects into tertiary institutions' course content, particularly those where both undergraduate and postgraduate degrees are offered.

We approached the office of Universities Australia (formerly the Australian Vice-Chancellors Committee), the peak body representing the university sector. We pointed out our concern "with an apparent increase in tertiary courses – particularly in medicine areas, but also science and education – where unproven or even disproved subjects and methodologies are being taught and/or researched at Australian universities. Such topics as chiropractic, homeopathy, and acupuncture (for treatments beyond analgesic effects) regularly appear in university calendars, along with young earth creationism, psychic powers, spiritualism etc appearing either in formal university courses or in special education services provided on university campuses.

"It is our fear that tertiary institutions are increasingly playing into offering courses that will attract fee-paying students at the expense of academic rigour, and that even more suspect topics will creep into faculty offerings – those topics that are more suited to new age fairs and street stalls than the halls of academia."

We asked if Universities Australia has an official position on the bona fides of courses offered at Australian tertiary institutions, ie "that their study, researching and teaching are based on sound and established principles and that their inclusion on university courses is justified and on par with other perhaps less-controversial or at least well-substantiated topics".

**"If a particular course offering is of concern, contact the institution in question."** - Unis Aust



We also asked if Universities Australia has any policy or position on courses which incorporate highly suspect or thoroughly debunked pseudoscientific components.

Most of our concern revolved around courses covering 'complementary medicine', and in particular chiropractic, acupuncture, naturopathy, homeopathy, and forms of Asian and particularly Chinese medicine.

We stressed throughout our correspondence with Universities Australia and the later groups we contacted that "we are not concerned with individual studies for research etc



which investigate claims associated with such topics – in fact, we encourage that and have sponsored such research in the past. Our concern is with courses that actively promote such methodologies – through education courses at whatever level – as being valid and proven, when the truth is often quite the opposite.”

We received a reply from Michael Hartmann, Universities Australia director of communication and government relations. He said that “Universities Australia does not have an official position regarding the ‘bona fides of courses offered at Australian tertiary institutions’. Universities are self accrediting and therefore responsible for making their own decisions regarding the courses that they will offer to students. Each will have their own mechanisms for substantiating those decisions.

“If a particular course offering is of concern to your organisation then I would suggest that you contact the institution in question with your concerns and clarify the rationale which has been used.”

Which is exactly what we did.

#### SURVEY OF INSTITUTIONS

Following wide consultation with skeptical groups across Australia (and in particular the ongoing research work of Joanne Benhamu of Sydney), we contacted the vice-chancellor’s office of a number of tertiary institutions, all of which had been highlighted to us as running degree or diploma courses of questionable scientific validity:

- Canberra Institute of Technology
- Charles Sturt University (NSW)
- Edith Cowan University (WA)
- Macquarie University (NSW)
- Monash University (Vic)
- Murdoch University (WA)
- Royal Melbourne Institute of Technology (RMIT)
- Southern Cross University (Qld)
- University of Newcastle
- University of Sydney
- University of Technology, Sydney
- University of Western Sydney

The 11 universities listed represent about 30 per cent of Australia’s universities. The one institute of technology (CIT) also offers degree-

level qualifications. These institutions do not necessarily cover every one offering such courses, and we welcome correspondence from our readers on any others.

With each approach to the VC’s office, we introduced our query on their course content with the same concerns as expressed to Universities Australia. We added to this concerns about specific courses they were carrying (the last sentence under “Chiropractic” below was repeated with minor variation in each set of concerns):

**Chiropractic:** While chiropractic claims to use spinal manipulation for treatment purposes, for which there might be some justification, such practice has, at various times, also been applied to conditions including asthma, bedwetting, clumsiness, ear infections, gastric problems, menstrual and pregnancy-related problems, hyperactivity, immune-system problems, urinary conditions, learning

disorders and respiratory problems. In fact, the founder of chiropractic in the 1880s, Daniel Palmer, once wrote that “Ninety-five per cent of all diseases are caused by displaced vertebrae.” Such practices are used on children, with potential long-term damage. The basis of chiropractic is a symptom known as “subluxation”, though chiropractors have never been able to agree on the nature or even prove the existence of such a condition. Obviously, there are serious doubts about the applicability, effectiveness and even whether there is any substantiation for chiropractic, and particularly so when offered under a university’s imprimatur.

**Acupuncture:** While there may be some mild analgesic effect of the shallow insertion of needles (or even laser treatment) through the skin, at various times acupuncture has been applied to such conditions as AIDS, allergies, arthritis, asthma, Bell’s palsy, bladder and kidney problems, breast enlargement, bronchitis,

## SURVEY EXCLUSIONS - MORE TO COME?

**O**ur survey was primarily concerned with specific courses that carried degree and other similar academic qualifications, run by and within tertiary institutions.

Therefore, we did not look more than in a passing fashion at short ‘community’ diploma courses, the sort of thing that runs for a few hours over a number of weeks and are of a general nature for hobbyists and interested members of the public. For example, in among CIT’s Adult Community Education’s short courses on astronomy, jewellery purchasing, chess, and dog grooming are 8-hour courses on “discover your psychic intuition” and “tarot – getting started”. These are often outside of universities’ formal calendars of courses, although they do indicate worrying concerns that they are at least tacitly endorsed by those institutions by being held on their premises and thus indicating a lack of overview on course content. (See sidebar on Creationists on Campus).

Nor did we look into those private institutions which are dedicated almost entirely to these areas, such as the Australasian College of Natural Therapies, which offers diplomas in natural medicine (including naturopathy, homoeopathy, aromatic medicine, kinesiology and ‘myotherapy’).

Similarly with theology courses within theological institutions or faculties. However, it is interesting, to say the least, that the University of Newcastle has a range of theology undergraduate and postgraduate courses within its Arts and Education faculty. This is “designed to appeal to the diversity of Christian Churches and their students, as well as students from other world faiths, indigenous and overseas cultures”. These do not seem to be purely academic courses designed for those interested in religious history and philosophy in the same way as there are courses in the history and philosophy of science available at many tertiary institutions. This might be one area worthy of further investigation.

Another area that may be worthy of investigation is osteopathy, which shares some elements with both chiropractic and naturopathy.

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Continued...

colds, constipation, depression, diarrhoea, dizziness, drug addiction (cocaine, heroin), epilepsy, fatigue, fertility problems, fibromyalgia, flu, gynaecologic disorders, headaches, high blood pressure, hot flushes, irritable bowel syndrome, migraines, nausea, nocturnal enuresis (bedwetting), pain, paralysis, post traumatic stress disorder, PMS, sciatica, sexual dysfunction, sinus problems, smoking, stress, stroke, tendonitis and vision problems.

**Naturopathy:** Naturopathy is often rooted in mysticism and a metaphysical belief in 'vitalism', and the claim that many diseases, including cancer, are caused by faulty immune systems.

**Chinese medicine:** While there are some justifications for researching Chinese herbs for their potential medical benefits, the course description includes a number of references to course components and requirements incorporating acupuncture [at UTS].

**Homeopathy:** [There were no standalone homeopathy courses, most falling with "complementary" or Chinese medicine courses.] We note courses covering 'complementary medicine' including such areas as naturopathy, homeopathy, kinesiology, aromatherapy and acupuncture. The stated aim of such courses [at Charles Sturt University] is "to provide complementary medicine practitioners with an advanced level of knowledge, understanding and skills," and yet there are serious doubts about the applicability, effectiveness and even whether there is any substantiation for such areas. Homeopathy, in particular, is known to be without any scientific basis at all.

## RESPONSES

The number of responses was disappointing, in some cases perfunctory, and in most entirely defensive (and some would sense a tone of 'harrumph'). We present here the full responses by those who did do so.

*Professor Ross Milbourne,  
Vice-Chancellor at University of  
Technology, Sydney:*

"UTS offers courses in accord with the Australian Qualifications Framework, and our Academic Board reviews the academic and educational merit of all course offerings – before they are approved – in accordance with high levels of academic standards and academic peer review."

*Professor Margaret Gardner AO,  
Vice-Chancellor and President,  
RMIT University:*

"As a global university of technology and design, RMIT is committed to an ethic of rigorous scientific enquiry. Our academic staff, whether conducting research or learning and teaching, operate within a methodology that is evidence-based.

"The RMIT code of conduct for research, for example, requires researchers to demonstrate integrity and professionalism; observe fairness and equity; and demonstrate intellectual honesty.

"I am confident that the programs you mention - chiropractic, acupuncture and Chinese medicine (we no longer offer animal chiropractic) - are taught within that methodology. RMIT is not responsible for potentially erroneous claims made by others about these disciplines.

"RMIT's chiropractic paradigm is based on a body of scientific literature which recognises the relationship between neuromusculoskeletal and physiological dysfunction. In keeping with the spirit of the philosophy of science, both qualitative and quantitative methods are promoted.

"RMIT's Chinese medicine program is helping lead the international development of an evidence base for Chinese medicine practice. It conducts research projects funded by the National Health and Medical Research Council and Australian Research Council, and has been a World Health Organization (WHO) Collaborating Centre for Traditional Medicine since 2005.

"I find it unfortunate that you should link either discipline with 'young earth creationism, psychic

powers, spiritualism etc' and would request that you refrain from making such a link in your publication."

We responded to Prof Gardner's last point by pointing out that "such subjects as mentioned are or have been taught, researched and/or promoted at universities and tertiary institutions in Australia (though not RMIT). These subjects have, from time to time, also included auras (as in health indicators for the human body) and UFOs - a very worrisome thought."

In fact, as we learned later, the subject of auras has been raised by one academic at RMIT. See the sidebar "Academic Auras".

*Professor Gary Martin, Acting Vice  
Chancellor at Murdoch University:*

"Thank you for enquiring about the Chiropractic program here at Murdoch University. We can assure you that our program meets the same rigorous academic standards as all our programs and fulfils the demanding professional accreditation standards established and reviewed by the Council on Chiropractic Education Australasia (CCEA).

"Chiropractic is an emerging profession, and it is a very positive sign that this profession is being represented increasingly in universities throughout Australia and many other parts of the World. The University environment facilitates quality assurance, professionalism and scientific enquiry; our aim is to produce graduates who are critical thinkers.

"The chiropractic profession has been regulated by State regulatory boards for many years, and now by the new national board, the Chiropractic Board of Australia (CBA). The School of Chiropractic & Sports Science does not support any outrageous claims made by individual chiropractors and promotes an evidence-based practice approach to teaching and learning."

The lengthiest response and that which was the most willing to discuss the issues of concern came from *Professor Nicholas Klomp, Dean of the Faculty of Science, Charles Sturt University:*

"You are partly right that Charles





## CREATIONISTS ON CAMPUS - HOW WOO WORKS WITH UNIVERSITY SUPPORT

Last September I received an email update from Creation Ministries International (CMI). I'd joined their email mailing list years earlier and found the weekly emails to be informative (in that they indicated what CMI was up to and where it'd be next) and often unintentionally hilarious (<http://creation.com/strategy-of-the-devil>).

The subject line of the email made my jaw drop: "University-sponsored Creation Seminar at Hervey Bay". I hoped it was not my University.

The email detailed how this was the first time in CMI's history that a secular university had "shown this sort of open-minded commitment to presentation of the 'other side' of this issue". The email then advised that "The only presenters at this event are CMI scientists, and it is entirely the university's event, and at its own initiative. The sponsoring organisation is the University of Southern Queensland, Fraser Coast, which is covering costs, and receiving all registration and fees."

I phoned the University of Southern Queensland's Fraser Coast Campus reception office to enquire about the event. The reception staff told me that the event was being organised by the Fraser Coast campus' Provost Office exclusively. I was then transferred through to the executive assistant to Provost, Mrs Rhonda Eastall who, I was told, was handling all inquiries.

Mrs Eastall was very pleased to hear I was interested in the presentation and agreed to send me out the necessary details I needed to book tickets. She spoke the names of the Creation Ministries scientists with familiar ease. I pointed out that I believed this would be the first time a public university in Australia had held a seminar like this. She agreed - "I know, isn't it exciting"

She then went on to describe how good it was to be able to bring education into a church setting. Within minutes I received via email the official flyer for the seminar, produced by USQ and an accompanying note that read: "The University is hosting this seminar due to the interest of providing education in churches and for the greater community who have an interest in the world, human origins and sciences (eg science teachers, university and high school students, church members, general public interested in human origins)."

The flyer itself titled the talk "Creation and Evolution, scientific evidence, myths and challenges", and described the seminar as a USQ special event, with two expert scientists challenging society's largely uncritical commitment to the theory of evolution. Dr Don Batten and Dr Tas Walker of CMI will argue that conventional thinking about evolution is seriously flawed. They will present scientific evidence that lends support to Creation as an alternative explanation of our origins.

With this in mind, it is worthwhile noting that CMI's website clearly states: "The scientific aspects of creation are important, but are secondary in importance to the proclamation of the Gospel of Jesus Christ as Sovereign, Creator, Redeemer and Judge."

The event had a charge of \$20 for adults and \$15 for school age child and seniors, with the

funds going to the University to cover costs of the seminar, administration, coffee on arrival and barbeque lunch. I couldn't help but wonder how much of the 'administration' was actually taking place during university work time, as CMI claim its events are free to run and organise.

I now knew that the Provost office of the entire Fraser Coast campus was behind the event, not only providing a venue and a forum for the dissemination of creation theology masked as science, but actively and uncritically supporting CMI through association with a public university, under the banner of a "continuing commitment to engage intellectually with our community".

The Fraser Coast Campus is just one of USQ's three main campuses, and I was willing to wager that the rest of the University had no idea this was taking place. I compiled a list of every single email address, of every single staff member, of each and every USQ facility, and sent them a message outlining what was going on at Fraser Coast.

Then I started receiving replies from USQ staff. The first one was disheartening, assuring me that the qualifications of both Dr Batten and Dr Walker were impeccable and, through the respondent's confusing series of seemingly illogical steps, actually related to evolutionary biology. They advised me that I would be doing myself a disservice by not attending the talk and becoming more informed on the topic. The next response merely advised me that the recipient did not agree with my 'position' and did not wish to receive further correspondence.

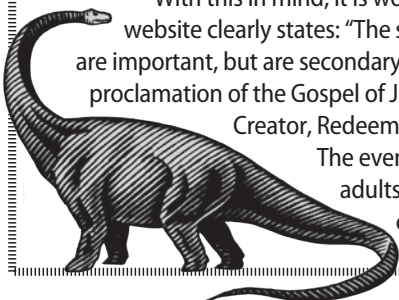
Then the floodgates opened. I found my inbox filling with messages of dismay that this was able to happen, mixed with gratitude for being forewarned. Various academics and staff from a range of disciplines and departments across the University wrote to share their thoughts and advise that they would be seeking an explanation right away. Curiously many of those who replied showing support were very concerned with confidentiality, some even replying only from private email accounts. The reasons given were fear of recrimination for voicing their concerns, providing yet another indication to me at least just how tough a battle we have to keep our schools and universities reason driven.

At 5pm on Monday September 20, 2010, I received correspondence from a staff member who advised me that while they were formally complaining, the University had told him they had withdrawn all support, effectively cancelling the event!

I checked the CMI webpage and found that although the event was still being advertised, there was now a comment: "Stop press! A concerted campaign of vitriolic and deceptive opposition from persons outside the University of Southern Queensland has resulted in the USQ Fraser Coast campus no longer sponsoring the seminar."

I was amazed both that my efforts had achieved a desired result at all, and that it had taken only three days. Yes, CMI might find another venue. Yes, CMI was able to get into a university in the first place, but now there are many staff and associates who are not necessarily members of the 'skeptical community' who will be watchful.

— Jayson D Cooke



# Degrees of WOO

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Sturt University offers a degree in 'complementary medicine', but you are wrong in your assumption that CSU teaches such areas as naturopathy, homeopathy, kinesiology, aromatherapy and/or acupuncture. I agree that there are serious doubts about the applicability and effectiveness of many of these approaches to health care.

"In fact, Charles Sturt University offers the Bachelor of Health Science (Complementary Medicine) to those graduates of various diplomas from TAFE's and other recognised post-secondary providers who are prepared to study for an additional 1.5 – 2.5 years in strict evidence-based disciplines. Students must complete the following core subjects and, depending on what-else and where-else they have studied in the past, must choose up to eight additional electives from a strictly prescribed list of subjects.

"CSU recognises that there are a great many practitioners of various forms of complementary medicine already operating in Australia and across the world. Our Bachelor of

Health Science (Complementary Medicine) aims to ensure that those who choose to do extra study with CSU have formal health and scientific training, as well as an understanding of the need for evidence-based practice and the limitations of specific complementary therapies."

We responded by pointing out that we appreciated Prof Klomp's comment that CSU doesn't teach naturopathy etc, and also that CSU offers a range of highly legitimate qualifications in health science, particularly in specialist and technology areas.

It's for that reason, we said, that we find it a concern that "Students entering the course will be required to possess an approved and government accredited qualification at the diploma level (or higher) in Complementary Medicine in the following therapeutic modalities: naturopathy, nutritional science, homoeopathy, kinesiology, herbal medicine, aromatherapy/ aromatic medicine, oriental therapies, acupuncture and remedial massage."

Some of these, you will recall, were the very same areas that Prof Klomp had expressed "serious doubts about [their] applicability and effectiveness".

In addition, we noted: "Upon admission, all students are awarded a credit package of 48 points based on completion of a recognised

Diploma or Advanced Diploma in a complementary medicine modality", which includes among others aromatherapy, kinesiology, reflexology, Ayurveda [sic] and naturopathy."

Surely these prerequisites and/or credit benefits, we asked, could easily be seen as endorsements by a noted Australian institution that such 'studies' have validity, when in fact they are not without serious question. Homeopathy, in particular, is without an evidence-base at all, as is even admitted by homeopaths.

Prof Klomp responded: "I understand especially the point you make about not providing validity or endorsement to un-scientific approaches to healthcare. In the end it is a decision to either not engage with the industry at all, or attempt to improve the scientific training of (potential) practitioners, so that they are more likely to offer a service to the public that is less likely to make unfounded and/or incorrect claims of efficacy or, worse, impede referral of genuinely sick clients to the more formal health system.

"Universities give credit to prior learning, although at CSU we restrict this to government-recognised qualifications. On balance, I believe our approach of insisting on teaching the science required by all health care practitioners, with a strong emphasis on evidence-based practice, but acknowledging the interest and achievements of people who have formally studied these other subjects, is a reasonable approach.

"CSU also does some excellent research in complementary medicine, as acknowledged in the government's recent process of research measures. For example, we produced a dozen scientific (peer-reviewed) papers last year alone on identifying the active ingredients (if any) of traditional Chinese medicines and other claimed herbal remedies. The research is fed directly back into our teaching. Students cannot escape CSU without being thoroughly exposed to scientific approaches to research and knowledge."

He added that "We have found that many students upon starting our course transfer to more formal health programs (pharmacy, medical science, nursing)

## ACADEMIC AURAS

I have a diploma in electronics from RMIT.

The only time I recall any woo during my diploma (mid 90s) was when I had to get through the management/humanities part of it (I forget what the subject was called). It was mainly about how to hold meetings, interview staff, do project management, write reports, do presentations, that kind of thing.

Somehow the teacher conducting this class brought in a discussion of auras. This was presented to a class full of practical electronics students by the way, people who are quite comfortable with what other people would regard as the magic of electronics and magnetism.



I recall a number of students being shocked by the teacher bringing up the subject of auras; clearly she was a believer.

One student in particular, knowing that I'm a skeptical person, said to me "Malcolm, we are letting you off the leash, this is a load of rubbish, go for it." Anyway, I thought I put my case against auras rather well, and regardless of my colleagues' encouragement, I was polite and reasonable about it. More effective was a group chat with the course coordinator; he was embarrassed more than anything. We had a different teacher the following week and for the remainder of that subject.

— Malcolm Vickers



upon exposure to evidence-based practice in these fields.”

(We would like to thank Prof Klomp for spending the time and effort to at least consider the issues.)

The personal assistant for *Dr Michael Spence, Vice-Chancellor and Principal, the University of Sydney*, did say they would pass our request on to Dr Spence for his attention. It seems to have stopped there, as we received no reply.

And that's it – less than half of the institutions bothered to reply, let alone justify their academic offerings.

Despite the protestations of those who did reply, it is still evident that, under the imprimatur of universities and their reputation for academic probity and accuracy, the public, students and no doubt many academics would regard these areas of activity as having been endorsed by such institutions. Mentioned in relation to advanced studies, no matter how much the subject is encased in references to research and evidence, the view is that these areas have been given the seal of approval.

And in many instances, that is exactly what has happened. The fact that several universities have set up clinics in acupuncture, chiropractic, Chinese medicine and naturopathy to treat students and staff is indication enough that this is not a moot point, but a statement that, yes, these are proven modalities.

Despite the fact they're not.

This concern will be the subject of further research and approaches to tertiary institutes for them to at least seriously justify the inclusion of such courses. Dismissive and bland references to market forces, the Australian Qualifications Framework and internal reviews of the academic and educational merit of all course offerings are not enough.

By and large, we feel the response to date has been, to say the least, pathetic and worrying. ■

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## WOONIVERSITIES AT PLAY - SUBJECTS FOR REVIEW

*For the record, the list of courses offered by Australian tertiary education bodies which incorporate potential pseudosciences (correct as at February 24, 2011, more than survived but probably incomplete as per other institutions).*

### CANBERRA INSTITUTE OF TECHNOLOGY

- Naturopathy - Advanced Diploma

### CHARLES STURT UNIVERSITY

- Bachelor of Health Science (Complementary Medicine)
- Course in Biodynamic Agriculture

### CURTIN UNIVERSITY

- Evidence Based Complementary Medicine (course)
- “Complementary and alternative medicines including medicinal herbal therapies and their chemical constituents, nutritional therapies and other miscellaneous treatments. Pharmacological actions and clinical uses of complementary medicines including evidence of safety and efficacy. Clinical role of complementary therapies.”

### EDITH COWAN UNIVERSITY

- Complementary and Alternative Medicines
- “This unit [within the Faculty Of Computing, Health And Science School Of Nursing, Midwifery And Postgraduate Medicine] examines the current knowledge and evidence to support complementary and alternative medicines (CAM). Potential benefits and risks are explored together with consumer values. The focus of the unit is the application of this knowledge into current clinical practice.”
- Complementary and Alternative Physical Therapies (no details given as to what these are)

### MACQUARIE UNIVERSITY

- Bachelor of Chiropractic Science
- Master of Chiropractic
- Plus six chiropractic clinics

### MONASH UNIVERSITY

- Graduate Certificate in Medical Acupuncture

### MURDOCH UNIVERSITY

- Bachelor of Science in Chiropractic
- Postgraduate Diploma in Sports Chiropractic
- Plus: Murdoch University Chiropractic Clinic

### RMIT

- Bachelor of Health Science (Chiropractic)
- Master Clinical Chiropractic
- Chinese Medicine/Human Biology – Bachelor of Applied Science (Double Degree)
- Bachelor of Health Science (Acupuncture and Chinese Manual Therapy)
- Graduate Diploma in Acupuncture
  - Master of Applied Science (Acupuncture)
  - Nutrition postgraduate degree (Aimed at health practitioners, including doctors, nurses, physiotherapists, chiropractors, osteopaths, naturopaths and other complementary medicine practitioners.)

### SOUTHERN CROSS UNIVERSITY

- Clinical Science (Bachelors and Masters degrees). Alongside nursing, midwifery, allied health, and psychology, “The [Bachelors degree] course allows students to tailor their study program to meet their specific needs and interests, including those wishing to pursue a career in osteopathy, psychology, naturopathy and human nutrition.”
- Plus SCU Health Clinic which will “Train students in applying naturopathic and osteopathic skills in assessment and treatment”.

### SUNSHINE COAST TAFE

- Certificate in Aromatherapy
- Diploma of Reflexology
- Certificate and Advanced Diploma in Ayurvedic Lifestyle Consultation

### UNIVERSITY OF NEWCASTLE

- Complementary Therapies in Healthcare
- “The course will be theory and practical based and will include complementary therapies such as massage, aromatherapy, Reiki, meditation, and guided imagery. These therapies have been selected to suit the scope of practice of health care professionals and also because of burgeoning community interest and usage of these complementary therapies. The different modalities will be viewed from an historical, social and contemporary basis within the legal context of modern society in Australia.”

### UNIVERSITY OF QUEENSLAND

- Centre for Integrative Clinical and Molecular Medicine. Within the School of Medicine, while this Centre undertakes “scientific research to evaluate the scientific foundation of complementary medicine” it also “is particularly renowned for its studies in integrating evidence-based complementary therapies into clinical care to help people achieve and maintain optimal health and well-being”.

### UNIVERSITY OF SYDNEY

- Masters and Graduate Diplomas and Certificates in Herbal Medicines

### UNIVERSITY OF TECHNOLOGY, SYDNEY

- Bachelor of Health Science in Traditional Chinese Medicine. (Includes acupuncture, and assumes knowledge based on “Any two units of English; and any two units of science - biology is recommended”.)
- Plus UTS Traditional Chinese Medicine Clinic, including an acupuncture clinic.

### UNIVERSITY OF WESTERN SYDNEY

- Bachelor of Applied Science (Naturopathic Studies)
- Graduate Diploma in Naturopathy
- Master of Health Science (Acupuncture)
- Master of Health Science (Traditional Chinese Medicine)
- Plus UniClinic offering treatments in naturopathy, podiatry, and traditional Chinese medicine and acupuncture