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Certified Professional
Soil Scientist, CPSS
(by Narratives)



**CERTIFIED PROFESSIONAL
SOIL SCIENTIST**

Updated March 2018

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1. INTRODUCTION

This guide is for persons seeking admission to *Soil Science Australia's Certified Professional Soil Scientist* (CPSS) accreditation program **by Narratives** (NOT **by Publications**). To be eligible for accreditation you must hold appropriate qualifications, experience and demonstrate competency as outlined in **Section 2** below. **Section 3** introduces the Competency Standards for Professional Soil Scientists, and **Section 4** explains how to prepare an application. If you require assistance, you may contact the CPSS Office by email: office@cpss.com.au. Please ensure all aspects of the application are complete before you submit it.

2. ELIGIBILITY FOR CPSS ACCREDITATION

Accreditation in the Certified Professional Soil Scientist (CPSS) program is based upon qualifications, experience and competency. You must demonstrate you hold a recognised qualification with experience (see **Section 2.1**) and you must demonstrate competency to practice as a qualified member of a professional soil science team (see **Sections 2.2** and **3**).

2.1 Qualifications and experience

All applicants must meet the following requirements:

2.1.1 Knowledge. All applicants must hold a minimum Australian Qualifications Framework (AQF) Level 7 (i.e. Bachelor) degree or equivalent that is recognized by the CPSS Board. The formal definition of AQF-7 is outlined on the web: <https://www.aqf.edu.au/aqf-levels>. In addition, applicants must have:

- completed a minimum of 4 tertiary level soil science (or equivalent) subjects/units, **OR**
- passed the Fundamentals Examination, **OR**
- sufficient relevant peer-reviewed scientific soil science publications that demonstrate equivalency in the four soil science subjects/units recognized by the CPSS Board (soil physics, soil chemistry, soil biology, pedology).

2.1.2 Experience. You must demonstrate at least five years relevant professional work experience in Soil Science or Soil Science-related work.

2.2 Competency

You must demonstrate you meet the minimum requirements as outlined in the *Standards for Professionals in Soil Science*, below.

3. COMPETENCY STANDARDS FOR PROFESSIONALS IN SOIL SCIENCE

Soil Science Australia publishes and maintains the *Standards for Professionals in Soil Science*, which can be found on the web at www.cpss.com.au under the tab called "**The Standards and Performance Objectives**". The *Standards* define the required competencies expected of an experienced soil science professional in two sections, as follows:

Section 1. Professional Practice (must satisfy 7 of 10 competencies listed under 3 skill sets)

- Skill set 1.1 Professional Responsibility (must satisfy 2 of 4 competencies)
- Skill set 1.2 Project Management (must satisfy 1 of 3 competencies)
- Skill set 1.3 Professional Development (must satisfy 1 of 3 competencies)

Section 2. Practice of Soil Science (must satisfy 10 of 13 competencies listed under 3 skill sets)

- Skill set 2.1 Soil Science Knowledge and Technology (must satisfy 3 of 4 competencies)
- Skill set 2.2 Soil Monitoring, Analysis and Investigation (must satisfy 4 of 6 competencies)
- Skill set 2.3 Soil Advisory, Training and Education Services (must satisfy 1 of 3 competencies)

4. PREPARING YOUR APPLICATION

4.1 Application form

Download the current application form from the CPSS web site www.cpss.com.au. Appendix B provides information about document certification requirements.

4.2 Proof of identity

You must include appropriate identification including your full name, date of birth and a passport-style photograph. For this purpose we prefer a certified true copy of your passport bio-data page, Australian driver's license, or other Official Identity document, although where these are not available, a certified copy of your Birth Certificate and a certified passport-style photograph may be accepted. If your current name differs from that on your original documents you must provide evidence of your name change.

4.3 Qualifications

You must provide certified true copies of your AQF degree qualifications, together with the associated academic transcript/s showing courses, subjects or units studied and the results gained in each. If you have more than one qualification that you believe is relevant, please provide details for each one. Examples might be an undergraduate degree in a non-soil science (but related) field, plus a *Masters* degree in Soil Science. If available, please provide extracts from university, college or other handbooks giving brief descriptions of the courses, subjects or units you have studied. Where qualifications are not in the English language you must provide copies of both the original language document and a certified English-language translation. The name and contact details of the translator must be provided on the English-language version.

4.4 Curriculum vitae

You must provide a CV covering your Soil Science employment experience since completing your

undergraduate studies to date. The CV may also include Soil Science experience gained prior to or concurrently with your qualifications. For each Soil Science appointment you describe, include the name, location, and address of the employing organization, the title of the position you held and the dates of your employment, as well as your roles and responsibilities. You should also list any of your publications but be sure these are available to an Assessor. If you think your competencies are demonstrated in confidential commercial reports, a declaration of confidentiality is available on request to protect commercially sensitive intellectual property. You should include a section on Ongoing Professional Development showing activities in the previous 4 years separate from your OPD diary.

4.5 Career episode narratives

4.5.1 General – all narratives

You should prepare at least three narratives describing educational and work experiences through which you developed and can demonstrate competency. Each narrative should reflect a separate period of education or employment.

- Use the *Standard for Professionals in Soil Science* to help you describe your experiences. One of your narratives, for example, could be based on a substantial soil science project or design exercise you conducted, which allows you to demonstrate achievement of a specific competency. Generic examples are available on request.
- Although each narrative may not demonstrate all competencies, you must ensure that your narratives, when taken as a whole, cover the minimum number of competencies in both Sections.
- At the end of your narratives, complete the “Self-Assessment and Summary” table relating each of your competencies to one or more numbered paragraphs in your narratives.
- We expect 600-800 words is enough to demonstrate your competencies in each narrative.
- **Write in the first person singular (i.e. “I” rather than “we”)** and identify the specific Competency numbers you believe the narrative describes.
- You must cover the required number of Competencies in your narratives; the Assessor will rely on the Competencies listed in the *Standard for Professionals in Soil Science* to make a judgement. As you compose your narratives, ask yourself: does this narrative (with concrete evidence) demonstrate to an Assessor that I possess the competency I claim?
- Number each narrative and each paragraph so you can easily refer to them in your summary table (e.g. the first competency covered in the third paragraph of your second narrative would be referred to as N2P3 in your summary table).

4.5.2 Narratives based on education

A narrative based on your education should focus on the most advanced pieces of work you completed, the knowledge you needed to perform that work, and the skills you needed to apply your knowledge in a Soil Science context. Project work is likely to be one of the best ways to illustrate your knowledge and abilities. In addition to projects conducted within a university or college you may find it useful to write about industry experience you undertook as part of your education. You must write about what you actually did, and indicate which Competencies you believe you attained, and how you did so. Some aspects of your knowledge and abilities may not have been applied through project or design work but may have been tested through assignments or other tasks. In such cases you can demonstrate competency by describing the most advanced work you completed (e.g. problems you solved, how you solved them, and what knowledge was required to do so). It may be useful to describe what you found most challenging about them and how you developed the ability to handle them with confidence.

4.5.3 Narratives based on employment

You may base one or more of your narratives on a soil science project on which you worked, or a specific soil science position you occupied, or a soil science problem you were required to solve as part of your job. The narrative should describe the application of your Soil Science knowledge and identify specific problems encountered plus the problem-solving techniques or novel contributions you demonstrated. The Assessor must be able to identify the contribution you made to the project or task.

- When writing about a team project, briefly describe the overall project then describe your specific part (i.e. what you actually did) and how it contributed to the team objective. It is important to clearly demonstrate you have a thorough understanding of Soil Science and have the ability to apply this knowledge to problems and situations.

Each narrative should include the following three sections:

Introduction, incl. dates/duration of project or appointment, employer and position title (where you and your work fit into the organization), plus the overall objectives of the Soil Science work you were involved in.

Description, incl. technical details of tasks delegated to you, how you applied Soil Science knowledge and skills to complete the tasks, any difficulties encountered and how you solved them, strategies you devised, and how you worked with other team members.

Reflection, incl. your view of the overall project (brief summary), how well the project succeeded in meeting its goals, what you learned and how your personal contribution helped.

4.5.4 Narratives based on work-based learning

Your formal AQF education may not cover all the knowledge expected in the *Standards for Professionals in Soil Science*, but you may have developed knowledge through formal work-based learning, which you can

use here. Please note, however, it is not sufficient to say you performed work requiring particular knowledge; rather you must also explain how you acquired the particular knowledge – for example through training courses, continuing professional development, work- based learning modules, or private study. You must provide enough detail to satisfy the Assessor you developed the knowledge in a serious and comprehensive way. An unsubstantiated claim of “private study” or “on-the-job experience” is not sufficient; you should include certificates or statements of completion of relevant courses.

4.6 Ongoing professional development (OPD) diary

You must provide a completed OPD diary showing evidence of professional development in the amount of at least 50 hours undertaken during the previous calendar year. Once accredited, you will only need to submit a triennial OPD diary. In addition, please use your CV to outline your OPD activities over the past 5 years to give the Assessment Team a better idea of your longer-term involvement in soil science.

4.7 Referees

Provide the names and contact details of four professional referees, at least two of whom must be CPSS accredited (or working at the equivalent professional level of expertise of a CPSS), and be willing to be contacted by telephone to provide an objective evaluation of your skills and competencies as a professional soil scientist. No more than 2 of the 4 referees can be from the same workplace as you.

4.8 English-language competency

CPSS accreditation requires fluency in written and spoken English. *Soil Science Australia* will normally accept your English-language competency if English is your first language, or if you have successfully completed an AQF undergraduate Soil Science qualification, or a Masters or PhD at an Australian university, or if you have worked in Australia (as detailed in your CV) and your employer has provided a statement that you are competent in English in the workplace. If this applies to you, please provide a statement to this effect. If English is not your first language and none of the above statements applies, you must supply an IELTS (International English Language Testing System) certificate that shows you achieved a minimum score of 7.0 in each of the four modules of Speaking, Listening, Reading and Writing, in either the General Training or the Academic modules of IELTS.

4.9 Application fees

The schedule of fees for CPSS applications is available on the CPSS web site, www.cpss.com.au. There are three requirements: 1) You must be a financial member of *Soil Science Australia*, 2) you must pay the application assessment fee (non-refundable because the assessment incurs costs on the part of *Soil Science Australia*), and 3) If your application is successful, you will then need to pay the annual CPSS membership fee before your accreditation is finalised. If the application is successful, accreditation is granted for the year in which the application is made, unless agreed in advance by the CPSS Board.

4.10 Lodging your application

Two separate lodgments are required:

- i) An electronic copy should be submitted by email to the CPSS Administrator (office@cpss.org.au) as a pdf file comprising the application form, your CV, your narratives, etc but NOT your OPD diary, which should be submitted as an Excel file in “.xls” or “.xlsx” format.
- ii) A hard copy of p.1 of the application form (with signed declaration), plus your certified identity documents, qualifications, transcripts and testamurs, etc should be posted to Soil Science Australia, PO Box 737 PROSPECT EAST, South Australia 5082.

5. CHECKLIST

Item	Sent electronically		Sent by post	
p.1 signed declaration	✓		✓	
Certified identity documents + passport style photograph	✓		✓	
Certified qualification documents	✓		✓	
Completed application form	✓			
Statement or evidence of English-language competency	✓			
Curriculum vitae, CV	✓			
Ongoing Professional Development (OPD) Diary	✓			
Career episode narratives	✓			
Other evidence, if required	✓			
Summary table of competencies covered in the narratives	✓			
Evidence of a pass in Soil Science Fundamentals exam (if needed)	✓			
Proof of payment of the CPSS fees	✓			

6. ASSESSMENT PROCEDURES

6.1 General Your application is first checked by the CPSS Administrator for completeness.

6.2 Assessment of your application

The Board appoints a CPSS-Assessment Team to review your application against the *Standards for Professionals in Soil Science* and make a recommendation. Occasionally, applicants are asked to provide additional information or to attend an interview to clarify aspects of your application - it is important you respond quickly to any requests for additional information; if not, your application may be rejected. After checking the veracity of your submission, the Assessor will interview your referees. *Soil Science Australia* will not approach employers or other parties without first seeking your permission.


6.3 Timing

You will normally be advised within 30 days on the outcome of your application. If your application is unsuccessful you will be provided with feedback on the areas where you have failed to demonstrate competency at the level required of a professional soil scientist.

6.4 Review of decision

If you believe you have been unfairly treated in the assessment of your application you may appeal the decision by writing to the Chair of the CPSS Accreditation Board via the Federal Office of *Soil Science Australia*. An appeal should set out the basis on which you think you have been unfairly treated. In any appeal, all documentation from your file will be presented to the Appeals Committee, although under Australian Privacy Legislation your permission is required, so your signature on your letter of appeal will be taken to denote your consent.

APPENDIX A: Standards for Professionals in Soil Science

		Standards for Professionals in Soil Science <i>(updated April 2017)</i>		
Section 1. Professional Practice. Must satisfy 7 out of 10 competencies listed <i>The Expected standard is highlighted; ("Below" and "Above" expected standard are supplied for reference)</i>				
1.1 PROFESSIONAL RESPONSIBILITY (minimum 2 of 4 competencies)				
Comp	Below expected standard	Expected standard	Above expected standard	
1.1.1	Gathers and appropriately analyses information and contributes to drafts of manuscripts for publication in journals, conferences and technical reports of a similar standard.	Prepares and provides a demonstrably significant contribution to papers given at national conferences, published in soil journals, or publicly available technical reports of a similar standard.	Publishes significant papers in national and international soil journals or significant technical reports of a similar standard.	
1.1.2	Exercises judgment in assessing social, ethical and environmental considerations in soil science.	Provides sound recommendations and management of social, ethical and environmental considerations in soil science.	Demonstrated authoritative resource for others exercising high level judgment in assessing social, ethical and environmental considerations in soil science.	
1.1.3	Complies with regulations and legal requirements relating to individuals and industries operating in soil science.	Provides management and application of regulations and legal requirements relating to individuals and industries operating in soil science.	Demonstrated authoritative resource contributing to the development of regulations and legal requirements relating to individuals and industries operating in soil science.	
1.1.4	Formally contributes to discussions affecting the soil science profession through participation in professional and/or industry committees, groups or associations.	Initiates and formally contributes to discussions affecting the soil science profession through participation in, and committee membership of, professional and/or industry groups or associations.	Leads state or national level discussions, committees or panels affecting the soil science profession and provides authoritative advice on such matters.	
1.2 PROJECT MANAGEMENT (minimum 1 of 3 competencies)				
1.2.1	Contributes to effective and efficient team performance on soils projects and/or prepares aspects of financial and resource plans for soils projects and monitors performance against these plans	Manages a soil work program with responsibility for effective and efficient performance of the soils team, and/or manages financial and resource plans for soils programs and projects ensuring satisfactory progress.	Leads and co-ordinates a significant team of professional soil staff, with responsibility for effective and efficient performance of the group and/or leads significant soil programs and projects within agreed financial and resource plans and reports on performance.	
1.2.2	Understands and complies effectively with quality assurance procedures and systems.	Develops and implements effective quality assurance procedures and systems for soil programs.	Develops and implements effective quality assurance procedures and systems for significant soil programs.	
1.2.3	Contributes to the planning, implementation, reporting and evaluation of soil projects using recognised scientific principles.	Supervises and/or manages the planning, implementation, reporting and evaluation of soil projects using recognised scientific principles.	Leads the development of new methodologies in planning, implementation, reporting and evaluation of significant soil projects using recognised scientific principles.	
1.3 PROFESSIONAL DEVELOPMENT (minimum 1 of 3 competencies)				

1.3.1	Engages in soil science continuing professional development activity.	Expands knowledge and skills via higher level continuing professional development activities and contributes to the provision of professional development activities in the practice of soil science.	Instigates and leads continuing professional development activities in the practice of soil science.
1.3.2	Maintains and applies up-to-date knowledge of relevant research findings.	Maintains and applies up-to-date knowledge of relevant specialised research findings.	Applies an authoritative technical expertise and maintains up-to-date knowledge of relevant specialised research findings.
1.3.3	Seeks and develops contacts with experienced soil scientists as mentors.	Maintains a network of experienced soil scientists and provides mentoring to less experienced soil scientists.	Extends technical and professional networks via participation on government, industry or professional boards or equivalent, and provides mentoring to less experienced soil scientists.

Section 2. Practice of Soil Science. Must satisfy 10 of 13 competencies listed

The Expected standard is highlighted; ("Below" and "Above" expected standard are supplied for reference)

2.1 SOIL SCIENCE KNOWLEDGE AND TECHNOLOGY (minimum 3 of 4 competencies)

Comp	Below expected standard	Expected standard	Above expected standard
2.1.1	Interprets, applies and makes minor contributions to developing soil science knowledge.	Interprets, applies and contributes to developing soil science knowledge.	Motivates and stimulates scientific endeavour and demonstrates an effective leadership role in interpreting, applying and developing soil science knowledge.
2.1.2	Analyses, investigates and contributes to the identification of needs and priorities in soil monitoring and scientific work.	Develops sound proposals for determining needs and priorities in soil monitoring and scientific work.	Leads the identification of needs and priorities in the development of new soil scientific knowledge and makes sound, relevant recommendations based on identified needs.
2.1.3	Applies scientific judgment in suggesting new soil science techniques and departures from established methods and practices.	Manages the acquisition and implementation of new soil science techniques (including modelling) and improvements to established protocols, methods and practices, exercising innovation and judgment .	Develops new soil science techniques and improvements to established protocols, methods and practices, exercising innovation and expert judgment.
2.1.4	Contributes to the commissioning of research projects and/or development of commercial soil science products or services.	Develops and manages the commissioning and delivery of research and/or development of commercial soil science products or services.	Provides authoritative scientific direction for commissioning, conducting and assessing major research projects, and/or the development of significant commercial soil science products or services.

2.2 SOIL MONITORING, ANALYSIS AND INVESTIGATION (minimum 4 of 6 competencies)

2.2.1	Contributes accurate and relevant written sections of soil reports, documentation and papers and contributes to investigations and analyses of soil science-based problems.	Investigates and analyses soil science-based problems and opportunities, and prepares relevant reports, documents and papers containing justifiable, rational conclusions.	Develops innovative investigative techniques for soil science-based problems, and leads or makes authoritative contributions to accurate, relevant and effective soil reports, documentation and papers.
2.2.2	Collects and appropriately analyses field and laboratory soil data and provides accurate, reliable and comprehensive reports.	Supervises and/or manages the collection and preparation of soil data, analyses soil data, and makes sound recommendations on soil function and management.	Develops and leads significant technical programs and makes authoritative recommendations on soil function and management, explicitly providing justifiable and rational conclusions.
2.2.3	Operates soil laboratory or field instruments and equipment.	Implements procedures for the safe and effective use of soil laboratory or field instruments/equipment (e.g. Safe Work Method Statements)	Provides authoritative advice on the procedures for safe and effective use of soil laboratory and field instruments or equipment.
2.2.4	Conducts basic analyses of soil chemical, physical and/or biological properties.	Conducts and manages complex analyses of soil chemical, physical and/or biological properties.	Leads the technical development and review of new analyses for soil chemical, physical and/or biological properties.
2.2.5	Conducts basic modeling of soil-physical and chemical processes in soils.	Investigates and models scientific processes involving soils with one or more of water, plants, animals and the environment.	Leads the technical component of significant projects requiring investigation or modeling of complex scientific processes involving soils with one or more of water, plants, animals and the environment.
2.2.6	Applies techniques to maintain or improve soil function.	Selects and manages appropriate techniques to maintain or improve soil function.	Designs and develops new techniques to maintain or improve soil function.

2.3 SOIL ADVISORY, TRAINING, EDUCATION SERVICES (minimum 1 of 3 competencies)

2.3.1	Contributes appropriate soil advice to aid decision making by stakeholders.	Provides authoritative soil advice to improve soil and/or land management decisions of stakeholders.	Provides authoritative soil advice based on highly developed analytical ability, specialised knowledge/understanding of technology to improve soil and/or land management decisions.
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2.3.2	Contributes to field days, field excursions, group discussions, seminars, lectures and demonstrations using appropriate soil knowledge to meet the objectives of participants.	Provides authoritative technical presentations at field days, field excursions, group discussions, seminars or demonstrations using appropriate soil knowledge to meet the objectives of participants.	Meets Expected standard and supervises, manages and conducts technical discussions at field days, field excursions, group discussions, seminars or demonstrations using specialist soil knowledge to meet the objectives of participants.
2.3.3	Tutors students on soil science and/or related subjects.	Lectures students on soil science subjects at tertiary level.	Designs, develops and delivers the technical components of innovative educational programs in soil science and/or related subjects.

APPENDIX B Certification of documents

- 1) **Certified copies of previously certified copies will not be accepted. You must provide a properly certified copy of the original document.**
- 2) **Proper certification will appear on each page to be certified, and should show:**
 - a) the signature of the person certifying the document.
 - b) the name of the person certifying the document (clearly printed or evident in the official stamp).
 - c) the address of the person certifying the document.
 - d) the phone number and if possible the email address of the person certifying the document.
 - e) an official stamp indicating the status of the person certifying the document, i.e. Justice of the Peace, Commissioner for Oaths, Notary Public, or at least indicating the name of the lawfirm.
- 3) **The following classes of persons are authorised to certify copies of documents:**
 - a) **Certified Professional Soil Scientists**
 - b) **Other persons:**
 - Permanent employee of the Australian Postal Corporation with ≥ 5 years continuous service who is employed in an office supplying public postal services;
 - Agent of the Australian Postal Corporation in charge of an office supplying public postal services;
 - Australian Consular Officer, or Australian Diplomatic Officer, (within the *Consular Fees Act 1955*);
 - Bailiff;
 - Bank Officer with 5 or more continuous years of service;
 - Fellow of the National Tax Accounts Association;
 - Finance company officer with ≥ 5 years of continuous service;
 - Holder of a statutory office not specified in another item in this Part;
 - Judge, or Master, of a court;
 - Justice of the Peace;
 - Magistrate;
 - Member of the Association of Taxation and Management Accountants;
 - Member of the Australian Defence Force who is an Officer, or a Non-commissioned Officer within the *Defence Forces Discipline Act 1982* with ≥ 5 years continuous service, or a Warrant Officer within the *Act*;
 - Member of the Institute of Chartered Accountants in Australia, the Australian Society of Certified Practising Accountants or the National Institute of Accountants;
 - Member of the Institute of Corporate Managers Secretaries and Administrators;
 - Member of the Parliament of the Commonwealth, or the Parliament of a State, or a Territory Legislature, or a Local Government Authority of a State or Territory;
 - Minister of Religion registered under *Division 1 of Part IV of the Marriage Act 1961*;
 - Notary Public;
 - Permanent employee of a Commonwealth or of a Commonwealth Authority, or of a State or Territory Authority, or a Local Government Authority, with ≥ 5 years continuous service who is not specified in another item in this Part;
 - Police Officer;
 - Person before whom a statutory declaration may be made under the law of the State or Territory, or of a Commonwealth, State or Territory Authority;
 - Sheriff or Sheriff's Officer; or
 - Teacher employed on a full-time basis at a school or tertiary education institution.
 - c) **Persons Authorised Overseas:**
 - An officer of an Australian Diplomatic Post;
 - A Notary Public authorised in the country of application;
 - A Commissioner for Oaths (Declarations) authorised in the country of application;
 - A Solicitor, Barrister or Judge authorised in Australia or in the country of application;
 - A Justice of the Peace authorised in Australia or in the country of application.