



Australian Soil Science Fundamentals Exam

Certified Professional Soil Scientists (CPSS) are professionals who hold, and can apply, broad high-level knowledge of soils science, that is, knowledge across multiple domains such as soil chemistry, physics and biology.

The first step in the CPSS application process is for applicants to show that they have the requisite knowledge. There are two ways to do this:

1. By providing evidence of an undergraduate and/or postgraduate qualification that cover a minimum of four units/courses in soil science, or their equivalent.
2. By passing the online Australian Soil Science Fundamentals Exam. The exam will be most relevant to those who already hold tertiary qualifications in fields such as agriculture, geology, environment and now work predominantly in soils in a professional capacity.

About the exam

The Australian Soil Science Fundamentals Exam is jointly developed and owned by Soil Science Australia (SSA) and the Soil Science Society of America (SSSA). Soils Science Australia collaborated with the Soil Science Society of America to develop an online version of their Soil Science Fundamentals Exam that is relevant to Australian conditions.

Soil Science Australia considers the Performance Objectives to be the minimum professional competencies required by soil scientists working in Australia.

It is the responsibility of the Australian Examinations and Procedures Committee (AEPC) to review and update the Performance Objectives (POs) to ensure they are relevant to Australia. The Committee also revises the SSA examination every year and develops new examination questions to maintain relevance.

The POs also provide useful information that can be used to prepare for the Exam.

Sitting the exam

- The exam consists of **100 multiple choice questions** on the topics listed in the [Soil Science Fundamentals Performance Objectives](#).
- **Two hours** is allowed for completion of the exam.
- Applicants can take the exam in their own home or office.
- There will be remote oversight during the exam by another person – the exam proctor. An exam time will be scheduled that suits both you and the proctor.
- Register for the Soil Science Australia Soil Science Fundamentals Exam on the Soil Science Society of America [website](#).
- Once registered, applicants will receive detailed information about how to schedule the exam.
- The cost of sitting the Exam is set on an annual basis and is paid in \$US.
- Pass/Fail results are provided on-screen after the exam has been submitted. Applicants can print this information or email it.



- Those with health or other issues that might impact results will be able to request accommodation once they register. Examples of accommodation may be taking breaks and screen magnification.

Technical requirements

- A valid government issued ID. The first and last name used to register must match the name on your ID, and you will be required to show your ID to the remote proctor.
- A desktop computer or laptop computer running Microsoft Windows or Mac OSX (Tablets, iPads, Chromebooks and smartphones do not meet our requirements).
 - Only one computer display/monitor is allowed. You will be asked to unplug any additional displays/monitors.
 - The computer needs a working built-in or external webcam and microphone.
- Two cameras are required during your proctored exam. In addition to your computer's camera and microphone, please have a mobile device with the Google Meet app installed.
- Ensure that you have access to Google Meet on your computer, this is what the proctor will use to connect.
- A quiet and clean workspace cleared of any papers, post-its, books, electronic devices, phones, drinks, etc. where there will be no interruptions.
- No digital watches, headphones/earbuds or hats can be worn.
- No breaks are allowed.
- A calculator will be provided within the exam.
- You are allowed one blank piece of scratch paper and a pen or pencil. You will be required to show both sides of the paper to the proctor.
- You must use Chrome, Firefox or Edge; Chrome is the most compatible.
 - Safari and Internet Explorer are not supported.
- Reliable internet connection. Hot spots should not be used.
- Internet speed must be at least 2 Mbps download and 2 Mbps upload. 10 download/3 upload is recommended. Test your internet speed at: <http://www.speedtest.net>.

Useful websites

- <https://www.environment.nsw.gov.au/topics/land-and-soil>
- <https://www.dpi.nsw.gov.au/agriculture/soils/guides>
- <https://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/soil-home>
- <https://www.agric.wa.gov.au/climate-land-water/soils>
- <https://www.qld.gov.au/environment/land/management/soil>

Guiding texts for Soil Science Fundamentals Exam (updated by periodically by the AEPC)

Charman, PEV and Murphy, BW. (2007)	Soils: Their Properties and Management. (Oxford University Press, Melbourne). Sections on soil formation, soil classification, soil mapping, soil salinity and general interaction between soils and land use - a practical guide.
Isbell RF (2002)	The Australian Soil Classification: revised edition (CSIRO Publishing: Collingwood) Referred to as the ASC
Isbell RF, McDonald WS, Ashton LJ. (1997).	Concepts and Rationale of the Australian Soil Classification. CSIRO Publishing. Referred to as the ' Black Book '
Peveill KI, Sparrow LA, Reuter DJ (eds.) (1999)	Soil analysis: an interpretation manual. (CSIRO Publishing: Collingwood).
Hazelton P, Murphy B (2007)	Interpreting soil test results: What do all the numbers mean? CSIRO Publishing: Collingwood Contains lists of interpretation tables (and describes units) for various soil properties but can provide a useful reference list as well.
Peveill, KI, Sparrow, LA and Reuter, DJ. (1999).	Soil Analysis: An Interpretation Manual. (CSIRO Publishing, Melbourne). List all the nutrients required for plants and their basic chemistry as well as sections on soil physics and sampling.
McKenzie N, Coughlan K, Cresswell H (Eds.) (2002)	Soil physical measurement and interpretation for land evaluation. (CSIRO Publishing: Collingwood). Referred to as the ' Brown Book '
McKenzie NJ, Grundy MJ, Webster R, Ringrose-Voase AJ (Eds.) (2008)	Guidelines for surveying soil and land resources: second edition. (CSIRO Publishing: Collingwood). Referred to as the ' Blue Book '
Rayment GE, Lyons DJ (2011)	Soil chemical methods – Australasia. (CSIRO Publishing: Collingwood). Referred to as the ' Green Book '
The National Committee on Soil and Terrain (2009)	Australian soil and land survey field handbook: third edition. (CSIRO Publishing: Collingwood). Referred to as the ' Yellow Book '
McKenzie N, Jacquier D, Isbell R, Brown K (2004)	Australian soils and landscapes: an illustrated compendium. (CSIRO Publishing: Collingwood).