



**SOUTH AFRICAN COUNCIL**  
for the  
**ARCHITECTURAL PROFESSION**

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## **COMPETENCIES FOR THE ARCHITECTURAL PROFESSIONS**

**Date : 16 January 2010**



architecture  
**OTHERWHERE**  
durban  
2014

## INTRODUCTION AND BACKGROUND

This document prescribes a range of competencies for each of the categories of architectural professionals as defined in terms of the Architectural Profession Act (Act 44 of 2000). The competencies are listed as those that could be acquired through formal, academic learning, and those that could be acquired through work integrated learning in practice. To allow for the diversity of philosophies and focuses that exists in tertiary institutions in particular, some competencies are indicated as optional formal outcomes and suitable for learning through either route. Once again, the clustering is proposed – rather than definitive – and subject to debate.

### DEFINITIONS

The following definitions have been set by the South African Qualifications Authority (SAQA):

- **Assessment criteria**  
Essential evidence that a candidate has achieved an outcome.
- **Specific outcomes**  
The detailed, measurable, verifiable skills, abilities and values that must be demonstrated.
- **Outcomes**  
The competencies required to function in the category applied for.

The essential skills and knowledge required to practise architecture in a sustainable, socially responsible and financially viable way are clustered into a range of ten specific outcomes:

Architectural design	1
Environmental relationships	2
Construction technology	3
The structure of buildings	4
Contextual & urban relationships	5
Architectural history, theory & precedent	6
Building services & related technologies	7
Contract documentation and administration	8
Computer applications	9
Office practice, legal aspects and ethics	10

This proposal is based on the following assumptions:

**First;** that competencies must be aligned with the Identification of Work Matrix, suggesting that groupings and emphases might change as the matrix is modified and/or developed.

		SITE SENSITIVITY		
		LOW	MEDIUM	HIGH
PROJECT COMPLEXITY	LOW	PrArchDraught		
		PrArchT		
		PrSArchT		
		PrArch		
	MEDIUM	PrArchT		
		PrSArchT		
		PrArch		
	HIGH	PrSArchT		
		PrArch		

**Second;** that the proposed competencies must establish a consistent framework, aligning registration in one of the four categories of architectural professionals with the national qualifications framework (NQF).

CATEGORY Candidate —	ACRONYM	QUALIFICATION	NQF LEVEL
Professional Architect	PrArch	M Arch (Prof) <b>[minimum 1 year, 180 credits]</b>	9
Professional Snr Technologist	PrSArchT	BAS Honours B Arch (Prof) <b>[4 years, 480 credits]</b> PG Diploma	8
		BAS <b>[3 years, 360 credits]</b> Advanced Diploma <b>+ 1 yr WIL</b>	7
Professional Technologist	PrArchT	Diploma <b>[3 years, 360 credits]</b> Advanced Certificate <b>[total 240 credits, + 1 yr WIL ]</b>	6
Professional Draughtsperson	PrArchDraught	Advanced Certificate <b>[Hi Cert + 1 yr, 120 credits]</b>	
		Higher Certificate <b>[1 year, 120 credits, + 1 year WIL]</b>	5

**Note : WIL – Work Integrated Learning**

**Third;** that the competencies must allow an architectural professional to compete and operate internationally. The descriptions used for the RIBA Outline Syllabus: Part 3 (March 1999) are therefore used, simply because it was conceived for a very similar purpose and because some form of alignment is desired.

<b>LEVEL #</b>	<b>LEARNING LEVEL</b>	<b>DESCRIPTION</b>
<b>A</b>	<b>Awareness</b>	Acquaintance with relevant concepts and methods, without necessarily being skilled to paraphrase information.
<b>B</b>	<b>Knowledge</b>	Familiarity with relevant information, without necessarily being skilled to see its fullest implication or application.
<b>C</b>	<b>Understanding</b>	Full assimilation and comprehension of information, and the skill to correctly paraphrase it and relate it to other situations, including its practical application.
<b>D</b>	<b>Ability</b>	Skill in analysing problems, identifying appropriate information for the accomplishment of tasks and to apply it to the solution of specific problems.

Gerald Steyn  
16 January 2010



## COMPETENCIES FOR THE ARCHITECTURAL PROFESSIONS

	CANDIDATE PROFESSIONAL ARCHITECTURAL DRAUGHTSPERSON	CANDIDATE PROFESSIONAL ARCHITECTURAL TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECTURAL SENIOR TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECT
	<b>A person registered in one of the categories above must demonstrate ...</b>			
<b>1. Architectural design</b>	<p><b>FORMAL</b> Knowledge of the fundamentals of the design process and how it impacts on the documentation process.</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• Knowledge of the principles and terminology applicable to architectural design.</li> <li>• Understanding of the fundamentals of the design process.</li> <li>• Ability to do thorough, appropriate planning.</li> <li>• Understanding of problem analysis on a basic level.</li> <li>• Knowledge of social and environmental issues.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• Ability to do a competent design of a simple multi story building as well as long span structures, based on parameters and constraints developed through independent scientific research, which are sensitive to issues of environment and sustainability, as well as cultural issues in a responsible, appropriate and economical manner in an urban, a sub-urban or rural context.</li> <li>• Ability to appraise and define the above mentioned architectural problem.</li> <li>• Ability to prepare an appropriate concept.</li> <li>• Ability to develop the design to an ultimate and rational conclusion.</li> <li>• Ability to present the design synthesis in a logical manner.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• Ability to do a competent building design of a complex nature, based on parameters and constraints developed through independent scientific research, which is sensitive to issues of environment and sustainability, as well as cultural issues in a responsible, appropriate and economical manner in an urban, a sub-urban or rural context.</li> <li>• Ability to appraise and define a complex architectural problem.</li> <li>• Ability to prepare an appropriate concept.</li> <li>• Ability to develop the design to an ultimate and rational conclusion.</li> <li>• Ability to present the design synthesis in a logical manner.</li> </ul>

	CANDIDATE PROFESSIONAL ARCHITECTURAL DRAUGHTSPERSON	CANDIDATE PROFESSIONAL ARCHITECTURAL TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECTURAL SENIOR TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECT
	<b>A person registered in one of the categories above must demonstrate ...</b>			
<b>2. Environmental relationships</b>	<p><b>FORMAL</b> <u>Awareness</u> of the issues</p>	<p><b>FORMAL</b> <u>Awareness</u> of the issues</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of the relationship between the natural and the built environment.</li> <li>• <u>Understanding</u> of landscapes and environmental structures in basic terms in an analytical, constructive and critical manner.</li> <li>• <u>Knowledge</u> of the basic spatial, functional and aesthetical aspects appropriate to landscape architecture</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of the relationship between the natural and the built environment.</li> <li>• <u>Ability</u> to evaluate landscapes and environmental structures in basic terms in an analytical, constructive and critical manner.</li> <li>• <u>Understanding</u> of the basic spatial, functional and aesthetical aspects appropriate to landscape architecture</li> </ul>
<b>3. Construction technology</b>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to research materials, products and components using commercially available referencing material for contract documentation purposes.</li> <li>• <u>Knowledge</u> of the generic names of materials as well as common sizes and thickness.</li> <li>• <u>Ability</u> to specify basic building materials on technical drawings.</li> <li>• <u>Ability</u> to solve construction and design problems in producing working drawings of basic double storey buildings.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Knowledge</u> of construction methods and uses for materials related to simple low-rise building types.</li> <li>• <u>Ability</u> to develop durable, cost-effective, climate responsive construction details.</li> <li>• <u>Ability</u> to conduct limited relevant research into construction methods and materials and the appropriate applications.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of construction methods and uses for materials related to simple multi story building</li> <li>• <u>Understanding</u> of the demands of context, local resources and appropriate technologies that harmonise with the environment, which influence the construction of a building.</li> <li>• <u>Ability</u> to develop durable, cost-effective, climate responsive construction details.</li> <li>• <u>Ability</u> to conduct limited relevant research into construction methods and materials and the appropriate applications.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to implement innovative application of construction methods and uses for materials related to multi-storey, multi-functional, complex building types.</li> <li>• <u>Ability</u> to recognise the demands of context, local resources and appropriate technologies that harmonise with the environment, which influence the construction of a building.</li> <li>• <u>Ability</u> to develop durable, cost-effective, climate responsive construction details.</li> <li>• <u>Ability</u> to conduct advanced research into construction methods and materials and the appropriate applications.</li> </ul>

	CANDIDATE PROFESSIONAL ARCHITECTURAL DRAUGHTSPERSON	CANDIDATE PROFESSIONAL ARCHITECTURAL TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECTURAL SENIOR TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECT
<b>A person registered in one of the categories above must demonstrate ...</b>				
<b>4. Building structures</b>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of the terminology and principles associated structures.</li> <li>• <u>Ability</u> to do pocket calculator functions.</li> <li>• <u>Understanding</u> of the basic units used in the building industry, SI units.</li> <li>• <u>Ability</u> to do calculations of area and perimeter of basic geometric figures.</li> <li>• <u>Ability</u> to do calculations of volume of basic geometric figures.</li> <li>• <u>Ability</u> to do calculations of angles employing sine, cosine, tangent as well as inverse</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Knowledge</u> of the basic structural concepts pertaining to buildings.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of the basic structural concepts pertaining to buildings.</li> <li>• <u>Ability</u> to integrate structure and building design.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of structural concepts pertaining to buildings.</li> <li>• <u>Ability</u> to integrate structure and building design.</li> <li>• <u>Understanding</u> of calculations on the structural aspects of buildings.</li> </ul>
<b>5. Contextual &amp; urban relationships</b>	<p><b>FORMAL</b></p> <p><u>Awareness</u> of the issues</p>	<p><b>FORMAL</b></p> <p><u>Awareness</u> of the issues</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Knowledge</u> of critical urban issues.</li> <li>• <u>Awareness</u> of and sensitivity to urban aspects when designing individual buildings.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of the basic spatial, functional and aesthetical aspects appropriate to urban design.</li> <li>• <u>Ability</u> to evaluate urban environments in very basic terms in an analytical, constructive and critical manner.</li> <li>• <u>Understanding</u> of and sensitivity to urban aspects when designing individual buildings.</li> </ul>

	CANDIDATE PROFESSIONAL ARCHITECTURAL DRAUGHTSPERSON	CANDIDATE PROFESSIONAL ARCHITECTURAL TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECTURAL SENIOR TECHNOLOGIST	CANDIDATE PROFESSIONAL ARCHITECT
	<b>A person registered in one of the categories above must demonstrate ...</b>			
<b>6. Architectural history, theory &amp; precedent</b>	<p><b>FORMAL</b>  <u>Awareness</u> of basic terminology pertaining to architectural theory and history studies.</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Knowledge</u> of the basic spatial and aesthetical aspects appropriate to architecture.</li> <li>• <u>Knowledge</u> of architectural history in broad terms.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of architectural history and theory.</li> <li>• <u>Understanding</u> of the principles of learning from historical precedent.</li> <li>• <u>Awareness</u> of the built environment and <u>understanding</u> of structures an analytical and constructive, critical manner.</li> <li>• <u>Knowledge</u> of the basic spatial and aesthetical aspects appropriate to architecture.</li> <li>• <u>Understanding</u> of research processes in architectural theories.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of architectural history and theory as part of a wider natural, social, technological and cultural system.</li> <li>• <u>Ability</u> to evaluate and analyse the built form critically in complex terms.</li> <li>• <u>Understanding</u> of the principles of learning from historical precedent.</li> <li>• <u>Understanding</u> of social, ethical, spatial and aesthetical aspects of the environment.</li> <li>• <u>Ability</u> to conduct relevant research in architectural theories.</li> </ul>
<b>7. Building services &amp; related technologies</b>	<p><b>FORMAL</b>  <u>Understanding</u> of the elementary building services, e.g. drainage, hot and cold water supply and electrical services.</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Knowledge</u> of the various technological aspects relating to services.</li> <li>• <u>Knowledge</u> of the building regulations pertaining to all building services.</li> <li>• <u>Knowledge</u> of the following technological aspects and building services –</li> </ul> <p>Drainage and water reticulation.  Electrical and electronic services and lighting.  Communications.  Air and gas supply.  Heating and cooling.  Elevators and escalators.  Fire protection and control.  Acoustics and sound systems</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of the integration of the various technological aspects relating to services in one cohesive design.</li> <li>• <u>Understanding</u> of the building regulations pertaining to all building services.</li> <li>• <u>Understanding</u> of the following technological aspects and building services –</li> </ul> <p>Drainage and water reticulation.  Electrical and electronic services and lighting.  Communications.  Air and gas supply.  Heating and cooling.  Elevators and escalators.  Fire protection and control.  Acoustics and sound systems.</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to integrate the various technological aspects relating to services in one cohesive design and find technological solutions.</li> <li>• <u>Understanding</u> of the building regulations pertaining to all building services.</li> <li>• <u>Understanding</u> of the following technological aspects and building services –</li> </ul> <p>Drainage and water reticulation.  Electrical and electronic services and lighting.  Communications.  Air and gas supply.  Heating and cooling.  Elevators and escalators.  Fire protection and control.  Acoustics and sound systems.</p>

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	<b>A person registered in one of the categories above must demonstrate ...</b>			
<b>8. Contract documentation &amp; administration</b>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to apply drawing and specifying aspects pertaining to a simple double-storey building employing either a drawing board or personal computer</li> <li>• <u>Ability</u> to apply basic drawing and lettering techniques, basic annotation and specification.</li> <li>• <u>Ability</u> to do drawings and sheet layouts.</li> <li>• <u>Understanding</u> of relationships between general layout drawings.</li> <li>• <u>Ability</u> to apply appropriate National Building Regulations (NBR).</li> <li>• <u>Understanding</u> of local authority approval requirements and procedures.</li> <li>• <u>Understanding</u> of graphic projections, scale, dimensioning and annotation.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to produce a set of working drawings as part of a set of contract documents of a complex building to acceptable practice standards.</li> <li>• <u>Ability</u> to develop durable, cost-effective, climate-responsive construction systems and details sensitive to the contextual language of the design concept.</li> <li>• <u>Understanding</u> of component and material specification</li> <li>• <u>Knowledge</u> of the relevance of appropriate National Building Regulations (NBR) as well as the requirements of the NHBC.</li> <li>• <u>Knowledge</u> of local authority approval requirements and procedures.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to produce a set of working drawings as part of a set of contract documents of a complex building to acceptable practice standards.</li> <li>• <u>Ability</u> to develop durable, cost-effective, climate-responsive construction systems and details sensitive to the contextual language of the design concept.</li> <li>• <u>Ability</u> to do component and material specification</li> <li>• <u>Understanding</u> of the relevance of applicable appropriate National Building Regulations (NBR) as well as the requirements of the NHBC.</li> <li>• <u>Ability</u> to respond to local authority approval requirements and procedures.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to produce a comprehensive set of contract documents of a complex building to acceptable practice standards.</li> <li>• <u>Ability</u> to develop durable, cost-effective, climate-responsive construction systems and details.</li> <li>• <u>Ability</u> to recognise the demands of context and local resources and appropriate technologies that harmonise with the environment.</li> <li>• <u>Understanding</u> of issues of sustainability of the built environment and <u>ability</u> to be able to evaluate materials in an ethical and socially responsible manner.</li> <li>• <u>Ability</u> to do component and material specification</li> <li>• <u>Ability</u> to implement appropriate National Building Regulations (NBR) as well as the requirements of the NHBC.</li> <li>• <u>Ability</u> to respond to local authority approval requirements and procedures.</li> </ul>

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	<b>A person registered in one of the categories above must demonstrate ...</b>			
<b>9. Computer applications</b>	<p><b>FORMAL</b>  <u>Knowledge</u> of the range of computer technology presently in use in architectural practice and ...</p> <p><b>FORMAL/WORK INTEGRATED LEARNING</b>  <u>Ability</u> to apply it in the execution of work. Computer software to include web browsers and communication programs, word processing, architectural drawing, graphic and image editing programs.</p>	<p><b>FORMAL</b>  <u>Knowledge</u> of computer technology presently in use in architectural practice and ...</p> <p><b>FORMAL/WORK INTEGRATED LEARNING</b>  <u>Ability</u> to apply it in the execution of work. Computer software to include web browsers and communication programs, word processing, spreadsheets, architectural drawing, graphic and image editing programs.</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understanding</u> of the range of computer technology presently in use in architectural practice and <u>ability</u> to apply it in the execution of work. Computer software to include web browsers and communication programs, word processing, spreadsheets, data bases, architectural drawing, 3 dimensional modelling, graphic and image editing programs.</li> <li>• <u>Ability</u> to design, publish and maintain a website.</li> <li>• <u>Knowledge</u> of different computer hardware solutions for networking.</li> <li>• <u>Ability</u> to make informed decisions in the acquisition of networking hardware.</li> <li>• <u>Ability</u> to troubleshoot network problems on a basic level.</li> <li>• <u>Knowledge</u> of operating systems for networked machines, and, in particular, setting up work groups, setting permissions and data security.</li> <li>• <u>Ability</u> to troubleshoot, upgrade and maintain PCs at a basic level.</li> </ul>	<p><b>FORMAL</b>  <u>Understanding</u> of the range of computer technology presently in use in architectural practice and ...</p> <p><b>FORMAL/WORK INTEGRATED LEARNING</b>  <u>Ability</u> to apply it in the execution of work. Computer software to include web browsers and communication programs, word processing, spreadsheets, databases, architectural drawing, 3 dimensional modelling, graphic and image editing programs.</p>

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	<b>A person registered in one of the categories above must demonstrate ...</b>			
<b>10. Office practice, legal aspects and ethics</b>	<p><b>WORK INTEGRATED LEARNING</b>  <u>Knowledge</u> of the administrative and logistical support systems in a practice.</p>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Knowledge</u> of the terminology and basic concepts and principles of architectural practice.</li> <li>• <u>Knowledge</u> of the contents of the various building contracts and the SAIA practice manual.</li> </ul> <p><b>FORMAL/WORK INTEGRATED LEARNING</b></p> <ul style="list-style-type: none"> <li>• <u>Knowledge</u> of the terminology and basic concepts and principles of business practice.</li> <li>• <u>Knowledge</u> of the administrative and logistical support systems in a practice.</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Understand</u> the terminology and basic concepts and principles of architectural practice.</li> <li>• <u>Understand</u> all the regulatory and legal aspects of the profession.</li> <li>• <u>Knowledge</u> of the contents of the various building contracts and the SAIA practice manual.</li> </ul> <p><b>FORMAL/WORK INTEGRATED LEARNING</b></p> <ul style="list-style-type: none"> <li>• <u>Understand</u> the terminology and basic concepts and principles of business practice.</li> <li>• <u>Understand</u> the administrative and logistical support systems in a practice.</li> <li>• <u>Understand</u> the basic concepts of business structures and principles, pertaining to architectural profession.</li> <li>• <u>Ability</u> to design a feasible information access and retrieval system.</li> <li>• <u>Ability</u> to design a functional and integrated management system.</li> <li>• <u>Ability</u> to participate meaningfully in the management and administration of a building project.</li> <li>• <u>Ability</u> to set up and run a building project successfully</li> </ul>	<p><b>FORMAL</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to apply all the regulatory and legal aspects of the profession.</li> <li>• <u>Ability</u> to implement the contents of the various building contracts and the SAIA practice manual.</li> </ul> <p><b>FORMAL/WORK INTEGRATED LEARNING</b></p> <ul style="list-style-type: none"> <li>• <u>Ability</u> to apply the basic concepts of business structures and principles, pertaining to architectural profession.</li> <li>• <u>Ability</u> to design a feasible information access and retrieval system.</li> <li>• <u>Ability</u> to design a functional and integrated management system.</li> <li>• <u>Ability</u> to implement administrative and logistical support systems in a practice.</li> <li>• <u>Ability</u> to design marketing strategy.</li> <li>• <u>Ability</u> to participate meaningfully in the management and administration of a building project.</li> <li>• <u>Ability</u> to set up and run a building project successfully.</li> </ul>