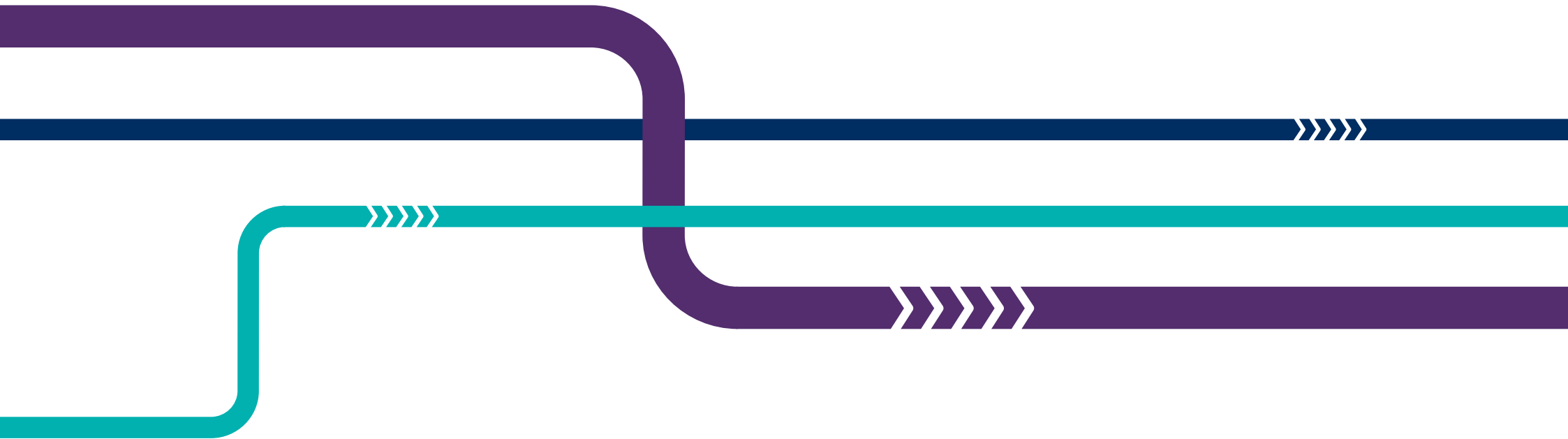




Associate Assessment

Quantity Surveying and Construction

February 2017



Quantity Surveying and Construction

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Introduction

In order to become an RICS Associate you must demonstrate that you have knowledge, understanding and practical ability relevant to a surveying role – in this case, Quantity Surveying.

This guide explains the competencies for your pathway, with examples of how you can show you meet the requirements.

Refer to this guide while preparing your submission for assessment.

The **Associate Assessment Candidate Guide** gives further essential information on how to prepare for the assessment.

Competencies

A competency is the knowledge, skills, abilities and behaviours needed for a particular role or task. RICS competencies equip you to work in your chosen pathway.

The six technical competencies are the pathway-specific ‘hard’ skills needed for your role.

The eight mandatory competencies are the ‘soft’ business skills demonstrating your ability to work with colleagues, manage workloads and act with integrity. All candidates, regardless of their pathway, need these skills.

What is Quantity Surveying?

Quantity Surveying is concerned with controlling and managing the costs of construction projects. As an RICS Associate in Quantity Surveying and Construction, you could be involved with any stage of a project, from feasibility, design and construction, through to extension, refurbishment, maintenance and even demolition.

The construction industry is global and wide-ranging. It includes:

- **real estate** – residential, commercial, industrial, leisure, agricultural and retail projects
- **infrastructure** – roads, railways, waterways, airports, sea ports, coastal defences, power generation and utilities
- **process engineering** – chemical engineering plants and oil rigs.

Working in a quantity surveying role, you will be gaining an understanding of the technical aspects of construction over the whole life of a building or facility. Your work will help achieve the best quality and value within the client’s specifications. You will need to understand contracts, budgets, quantities and measurements. You are likely to be involved in a range of services, from cost consultancy to contract management.

When you qualify as an RICS Associate you are likely to be working under supervision, but you will be using many of the core technical skills of a quantity surveyor; and contribute to some activities more likely performed by a chartered surveyor such as benchmarking, lifecycle and whole life costing, and producing/submitted reports to clients.

Quantity Surveying competencies

You must complete the following **five** technical competencies:

- construction technology and environmental services
- contract practice
- procurement and tendering
- project financial control and reporting
- quantification and costing of construction works

Plus one of the following technical competencies:

- building information modelling [BIM] management
- commercial management of construction
[those working in a contracting or commercial environment will probably choose this competency]

or

- design economics and cost planning
[those working in a consulting environment within either the public or private sector will probably choose this competency].

You must complete all **eight** mandatory competencies:

- client care
- communication and negotiation
- conduct rules, ethics and professional practice
- conflict avoidance, management and dispute resolution procedures
- data management
- health and safety
- sustainability
- teamworking.

Technical competencies

Construction technology and environmental services	
Description	<p>This competency covers the design and construction of buildings and other structures.</p> <p>Candidates should have an awareness of the design and construction processes commonly used in the industry. They should have a detailed knowledge of construction solutions relevant to their projects.</p>
Requirements	<p>Demonstrate knowledge and understanding of the principles of design and construction relating to your chosen field of practice. Apply your knowledge to the design and construction processes.</p>
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> the stages of design from inception to completion impact of current legislation and regulations (both national and international) how the various elements of the structure work and interrelate the process of constructing the works operational and maintenance processes post contract. <p>Activities</p> <ul style="list-style-type: none"> appreciating how design processes vary for different types of building such as clear span requirements for warehousing or acoustic requirements for accommodation understanding alternative construction details in relation to functional elements of the design such as different types of piling or structural frame solutions.
Examples of tasks undertaken	<ul style="list-style-type: none"> co-ordination issues design standards/regulation sustainable construction disability requirements pre-fabricated construction solutions.

Contract practice	
Description	This competency covers the various forms of contract used in the construction industry. Candidates should have an awareness of all of the main standard forms of contract and an understanding of contract law, legislation and the specific forms of contract they have used.
Requirements	Demonstrate knowledge and understanding of the various forms of contract used in the construction industry and/or your area of business. Apply your knowledge of the use of the various standard forms of contract at project level, including the implications and obligations that apply to the parties to the contract.
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> • basic contract law and legislation • contract documentation • the various standard forms of contract and sub-contract • when different forms would be used • basic contractual mechanisms and procedures at various stages of the contract • third party rights including relevant legislation and the use of collateral warranties. <p>Activities</p> <ul style="list-style-type: none"> • producing contract documentation • carrying out the contractual mechanisms and procedures relevant to the financial management aspects of the project, such as change procedures, valuations and final accounts • understanding general contractual provisions such as insurances, retention, bonds, liquidated and ascertained damages, early possession, practical completion and other common contractual mechanisms.
Examples of tasks undertaken	<ul style="list-style-type: none"> • queries in preparing prelims/ER/WID • insurance provisions • ascertained damages • variations • assessing preliminary items • adjustment and agreement of valuations/final accounts • unfixed materials on/off site • taxation.

Procurement and tendering	
Description	This competency covers the way a project is structured and delivered in terms of risk allocation and contractual relationships, and how tendering processes are used to establish a contract price. Candidates should have a clear understanding of the different types of procurement and tendering commonly used and the advantages and disadvantages of each to the parties involved. They should also have a detailed working knowledge of the procurement routes and tendering procedures used on their projects.
Requirements	Demonstrate knowledge and understanding of the main types of procurement. Demonstrate knowledge and understanding of the tendering and negotiation processes involved in procurement. Apply your knowledge to the implementation of the procurement routes selected for your projects and to carrying out tendering and negotiation processes relevant to them.
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> the main types of procurement used in both the public and private sectors, both nationally and internationally tendering and negotiation processes involved in procurement ancillary processes such as partnering and framework agreements codes of practice and procedures commonly used. <p>Activities</p> <ul style="list-style-type: none"> implementing procurement routes such as traditional, design and build, management forms, term and serial contracting and other types producing and/or compiling tender documentation such as letter of invitation, form of tender, health and safety documentation, design documentation and contractual details carrying out of tendering and negotiation processes such as single and two stage tendering, the use of codes of practice and electronic tendering.
Examples of tasks undertaken	<ul style="list-style-type: none"> contractors' queries late tenders errors omissions/qualifications adjustment of tenders.

Project financial control and reporting	
Description	This competency covers the effective cost control of construction projects during the construction phase. Candidates should be aware of the principles of controlling and reporting costs on any construction project. They should have an understanding of the control and reporting processes used on their projects (please note: for surveyors working in contracting this competency covers externally issued cost advice).
Requirements	Demonstrate knowledge and understanding of the effective control of costs during a project. Demonstrate understanding of the legal and contractual constraints and the effect of time and quality on the cost of a project. Apply your knowledge to the management of project costs. This should include the preparation and presentation of financial reports on the performance of a project at appropriate intervals to provide effective forecasting of costs, risks and their financial implications.
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> the effective control of costs during the construction phase of a project the legal and contractual constraints on the cost of a project such as changes in building legislation and design risk allocation the reporting and forecasting of costs during the construction phase the principles of contingencies/risk allowances. <p>Activities</p> <ul style="list-style-type: none"> managing project costs during the construction phase reporting and forecasting costs for different procurement routes and client types using cash flows in financial management managing provisional sums/risk allowances.
Examples of tasks undertaken	<ul style="list-style-type: none"> reconciling interim payments against cost forecasts reconciling interim payments against predicted cash flows and progress on site authentication of actual costs reporting regimes and protocols final accounts.

Quantification and costing of construction works	
Description	<p>This competency covers the measurement and definition of construction works in order to value and control costs. It covers the candidate's understanding and involvement with the various methods of quantifying and pricing construction works used throughout a project.</p> <p>Note: The measurement and costing of works for estimates and cost plans is dealt with under the competency 'design economics and cost planning'.</p>
Requirements	<p>Demonstrate knowledge and understanding of the principles of quantification and costing of construction works as a basis for the financial management of contracts. Apply your knowledge to the quantification and costing of construction works, including the use of appropriate standard methods of measurement and forms of cost analysis. Carry out measurement and costing of works at all stages of the construction process.</p>
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> the quantification of construction works (including both measurement and definition) the various standard methods of measurement the costing of construction works the measurement of buildings and structures to agreed standards. <p>Activities</p> <ul style="list-style-type: none"> quantifying construction works at the various stages of a project producing pricing documents such as bills of quantities, schedules of activities/works, schedules of rates or contract sum analyses carrying out the costing of construction works by methods such as tendered rates, quotations or dayworks.
Examples of tasks undertaken	<ul style="list-style-type: none"> design queries/Q&A sheets to take lists quantity checks building up rates from first principles inflation prime cost and provisional sums preliminaries, overheads and profit within variations professional and other fees within variations.

Plus

Building information modelling (BIM) management	
Description	This competency encompasses the establishment and management of the information modelling systems on projects. It covers collaborative process and technological principles involved in implementing Building Information Modelling (BIM).
Requirements	Demonstrate knowledge and understanding of the technical, process and collaborative aspects of the use of BIM on projects. Develop and apply management systems to facilitate the use of BIM on projects including unified control and reporting procedures.
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> • BIM strategies and implementation • Various technical options and solutions for information modelling • Collaborative processes necessary for BIM adoption • Standard classification systems and their use in infrastructure • Relevant internationally recognised management standards such as Construction Operations Building Information Exchange (COBie) <p>Activities</p> <ul style="list-style-type: none"> • Preparing a BIM execution plan • Designing and implementing of a BIM management process • Analysing comparative BIM solutions.
Examples of tasks undertaken	<ul style="list-style-type: none"> • Maintaining an information model • Agreeing and implementing contractual aspects of BIM such as separate protocol • Facilitating and managing project team members for BIM implementation.

Commercial management of construction	
Description	This competency covers the commercial management of construction works. Candidates should have an awareness of the way in which their work relates to how commercial competitiveness balances against profitability. An awareness of the financial processes used to achieve profitability is required, as well as how these integrate with the overall delivery of the project.
Requirements	Demonstrate knowledge and understanding of the principles of management of construction projects. Apply your knowledge to the financial management of construction projects, including regular monitoring and reporting on cash flow and profitability.
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> identifying and understanding the components that make up the cost of the project to the contractor understanding of the effect that the design and construction processes have on the cost awareness of the techniques used to reconcile the cost against income awareness of the techniques to financially manage subcontractors and suppliers understanding the use of cash flows. <p>Activities</p> <ul style="list-style-type: none"> collecting of data for reports carrying out cost to completion exercises preparing cash flows preparing reports such as liability statements, cost to complete and cost value reconciliations applying value engineering processes preparing and submitting cost data for in-house and/or external use in relation to areas such as cost of preliminaries, comparative cost of different construction techniques and taxation allowances.
Examples of tasks undertaken	<ul style="list-style-type: none"> determining the timing of cash movements establishing progress for a valuation, application, or a cost to completion exercise deciding on items to include in a cost report or a draft final account.

OR

Design economics and cost planning	
Description	This competency covers the impact of design and other factors on cost throughout the life of the building and the control of cost during the pre-contract stage. It covers the candidate's understanding of and involvement with the techniques used to manage and control costs during the design development phase of a project.
Requirements	Demonstrate knowledge and understanding of the main factors that affect design economics over the whole life of a building. Demonstrate knowledge and understanding of how cost planning assists in the financial control of projects during the design development stage. Apply your knowledge to the cost management of design development on a project from feasibility to design completion. Prepare and submit cost data to in-house and/or external data collection agencies.
Examples of likely skills, knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> • factors affecting design economics over the life of a building • how cost planning assists in the financial control of projects • the various stages of cost planning • source of cost data • adjustments to cost data for factors including location, specification, time and market forces. <p>Activities</p> <ul style="list-style-type: none"> • producing estimates and cost plans • applying value engineering processes • preparing and submitting cost data to in-house and/or external data collection agencies.
Examples of tasks undertaken	<ul style="list-style-type: none"> • measurement of areas or elemental quantities • sourcing of cost data • adjustment of cost data • calculation of unit rates • preliminaries, overheads and profit • professional and other fees • inflation • risk allowances • inclusions and exclusions • design efficiency, e.g. wall/floor ratios.

Mandatory competencies

Title	Requirement
Client care	<p>Demonstrate knowledge and understanding of the principles and practice of client care including:</p> <ul style="list-style-type: none"> the concept of identifying all clients/colleagues/third parties who are your clients and the behaviours that are appropriate to establish good client relationships the systems and procedures that are appropriate for managing the process of client care, including complaints the requirement to collect data, analyse and define the needs of clients. <p>Demonstrate practical application of the principles and practice of client care in your area of practice.</p>
Communication and negotiation	<p>Demonstrate knowledge and understanding of effective oral, written, graphic and presentation skills including the methods and techniques that are appropriate to specific situations.</p> <p>Demonstrate practical application of these skills in a variety of situations, specifically including where negotiation is involved.</p>
Conduct rules, ethics and professional practice	<p>Although this is demonstrated through the RICS ethics module [see Candidate Guide] you should still refer to it [where applicable].</p> <p>Demonstrate knowledge and understanding of the role and significance of RICS and its functions. Also an appreciation of your personal professional role and society's expectations of professional practice and RICS Rules of Conduct and regulations, including the general principles of law and the legal system, as applicable in your country of practice.</p> <p>Demonstrate practical application in your area of practice, being able to justify actions at all times and demonstrate personal commitment to the RICS Rules of Conduct and RICS ethical standards.</p> <p>Demonstrate that you have applied these in the context of advising clients.</p>
Conflict avoidance, management and dispute resolution procedures	<p>Demonstrate knowledge and understanding of the techniques for conflict avoidance, conflict management and dispute resolution procedures including for example adjudication and arbitration, appropriate to your pathway.</p>
Data management	<p>Demonstrate knowledge and understanding of the sources of information and data, and of the systems applicable to your area of practice, including the methodologies and techniques most appropriate to collect, collate and store data.</p>
Health and safety	<p>Demonstrate knowledge and understanding of the principles and responsibilities imposed by law, codes of practice and other regulations appropriate to your area of practice.</p> <p>Demonstrate practical application of health and safety issues and the requirements for compliance, in your area of practice.</p>
Sustainability	<p>Demonstrate knowledge and understanding of why and how sustainability seeks to balance economic, environmental and social objectives at global, national and local levels, in the context of land, property and the built environment.</p>
Teamworking	<p>Demonstrate knowledge and understanding of the principles, behaviour and dynamics of working in a team.</p>

Continuing professional development (CPD)

In your submission document you must record 48 hours of CPD, this must be 12 months prior to your associate assessment. The following are examples of the type of development relevant to this pathway.

Contract Practice			
Activity type	Purpose	Description	Learning outcomes
Work-based	To develop my knowledge of the use of the various standard forms of contract	Attended in-house training workshop on Contractual Awareness	It is fundamental to a quantity surveyor to understand various forms of contracts and potential contractual scenarios, including the implications and obligation that apply to the parties to the contract
Construction technology and environmental services			
Activity type	Purpose	Description	Learning outcomes

Private	Learn more about the main elements of a construction project and how they interrelate	Refresher online course on Construction Technology and environment services	I needed to refresh my knowledge and awareness of the design and construction processes commonly used in the industry. I achieved my objective by expanding my knowledge and learning more about construction solutions relevant to projects
Procurement and tendering			
Activity type	Purpose	Description	Learning outcomes
Organised	Strengthen my knowledge of procurement and tendering; how much it was being applied in practice and to further my understanding on the procurement options	CPD lecture – outlining the main forms of procurement as well as knowledge and understanding of the tendering and negotiation processes involved in procurement	I learnt that with procurement options, there are so many variables which determine the option that is eventually chosen, there is no standard way of analysing it but certain options will be better suited to certain projects
Health and Safety			
Activity type	Purpose	Description	Learning outcomes
Organised	The course aimed at making delegates familiar with relevant health and safety legislation and industry standards associated with preparing risk assessments, work package plans, and task briefings	Course delivered at my workplace over 9 hours through a combination of online materials, demonstration and hands-on tutoring	The course provided a brief understanding of the company procedures and legal requirements regarding these subjects. It increased my knowledge of how these systems work and my role in relation to them, as a key component to the business target of zero harm



Confidence through professional standards

RICS promotes and enforces the highest professional qualifications and standards in the development and management of land, real estate, construction and infrastructure. Our name promises the consistent delivery of standards – bringing confidence to the markets we serve.

We accredit 125,000 professionals and any individual or firm registered with RICS is subject to our quality assurance. Their expertise covers property, asset valuation and real estate management; the costing and leadership of construction projects; the development of infrastructure; and the management of natural resources, such as mining, farms and woodland. From environmental assessments and building controls to negotiating land rights in an emerging economy; if our professionals are involved the same standards and ethics apply.

We believe that standards underpin effective markets. With up to seventy per cent of the world's wealth bound up in land and real estate, our sector is vital to economic development, helping to support stable, sustainable investment and growth around the globe.

With offices covering the major political and financial centres of the world, our market presence means we are ideally placed to influence policy and embed professional standards. We work at a cross-governmental level, delivering international standards that will support a safe and vibrant marketplace in land, real estate, construction and infrastructure, for the benefit of all.

We are proud of our reputation and we guard it fiercely, so clients who work with an RICS professional can have confidence in the quality and ethics of the services they receive.

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