

### **ASSET MANAGEMENT DESIGNATIONS**

### I. PURPOSE

This paper outlines the rationale and structure of Asset Management (AM) designations recognised by the World Partners in Asset Management (WPiAM).

## 2. BACKGROUND

Asset Management coordinates the financial, operational, maintenance, risk, and other asset-related activities of an organisation to realize value from its assets. The ISO 55000 suite of standards was published in 2014 with the aim of providing a framework for a management system for Asset Management. As an Asset Management system relies on people, processes, and technology to function effectively, practitioners in the various disciplines of Asset Management are key to unlocking this value. It is essential that they are competent in carrying out their duties, and a coherent, transferable system for developing, assuring and verifying these competencies is needed.

WPiAM is a worldwide partnership, established in late 2014, of national not-for-profit professional associations working together to enable individuals and organisations to develop, assess and recognise competence in Asset Management, for the benefit of the Asset Management community globally. The CAMA certification was the first step in recognising individual competence globally – relating to the assessment of AM systems. This has been very successful and is available in multiple languages with another three languages being added by the end of 2020. The CAMA examination will still feature as part of the requirements for the proposed designations for Asset Management professionals.

The three key objectives of the WPiAM are to:

- Maintain a database of questions and answers suitable for certifying ISO55001 auditors and assessors in the minimum required knowledge and comprehension of Asset Management;
- Be a global certifier of Asset Management professionals in the marketplace; and
- Demonstrate the values of integrity, collaboration and duty to the public.

### 3. OBJECTIVES

The objectives of establishing AM designations are as follows:

- 1. Promote recognition in society of the value that competent Asset Management professionals add to public and private organisations;
- 2. Promote ownership and pursuit of Asset Management as a profession by individuals and interest groups;
- 3. Pursue attraction and retention of competent people in the field of Asset Management, at all levels;
- 4. Provide a globally standardised framework that characterises typical Asset Management roles and specifies minimum competency requirements as a norm that organisations can use when assembling Asset Management teams;
- 5. Provide an initial documented framework that can be further developed and adjusted as considered necessary by recognised participants in the field;
- 6. Promote career advancement and global transportability of credentials for individuals within the Asset Management profession as well as those seeking to augment other professional standing;
- 7. Facilitate transferability of recognition of knowledge and skills across industries and countries; and
- 8. Provide a framework for recognition of skills and/or knowledge achieved via different pathways.

# 4. CONTEXT AND RATIONALE

The following aspects have informed the proposed approach:

- 1. Asset Management is a business process that, while dependent on a range of underpinning technical or professional skills, has a need for recognition of the knowledge, skills and capabilities required to manage the concept of coordinated activities to derive value for the organisation. These requirements need to recognise that an Asset Management professional can come from a background of any of these technical or professional pathways.
- 2. Practitioners in the underpinning technical or professional disciplines are an essential part of the overarching success of Asset Management within an organisation. The augmentation of their capabilities, knowledge and skills in Asset Management enhances the Asset Management performance of the organisation and there is a need to provide a framework to recognise this value. The CAMA certification was the first step in creating this framework.
- 3. The power of Asset Management typically resides substantially in the integration of a broad range of disciplines (such as logistics, engineering, management sciences, planning, maintenance, operations and finance), as appropriate to the nature of the assets employed, to give effect to the specific objectives of an organisation. The mix can be expected to vary considerably from one organisation to another some with common fields, others not. Implicit in the integrative core of Asset Management is the concept of teamwork, with each member performing an essential role.
- 4. Asset Management organisations, public and private, pursue a wide range of endeavours, with commercial, social or other objectives, in an array of environments across the globe.
- 5. Asset Management applies to a wide range of industries with different asset types, requirements, values and levels of risk.



- 6. Whilst it is the intention that people will increasingly recognise the fit of their early career pursuits as a sub-domain of Asset Management, and navigate the multiple pathway options as they progress, others will enter Asset Management from a point of proven competence in a specific domain.
- 7. There are multiple roles to be performed in an Asset Management team and in the profession. The initial stage for international recognition through WPiAM has been focussed on those considered to be core to the practice of Asset Management. As the Asset Management discipline is still maturing expansion of the scheme will be considered based on the needs of the market.

The WPiAM's AM designations framework focusses on core roles in a team that may be operating in a range of industries, at various scales, in widely disparate environments. It provides a structure in which people can navigate their career and employers can reliably recruit. Whilst the backdrop is complex, and application diverse, the intent is to portray a clear and understandable framework as a basis for effective implementation and a clear career path for Asset Management professionals.

## 5. SCOPE AND STRUCTURE

The proposed designations have been shaped around key AM roles that will apply in many Asset Management teams. A person will typically be responsible for leading the design of the over-arching integrated Asset Management system used at an organisation. In turn, that person will be supported by people responsible for specific domains such as (engineering, projects, maintenance, accounting, planning, or systems support) who may be professionally registered in their domain. These managers will be supported by proficient staff responsible for implementation of aspects of that domain (such as accountants, technical specialists, engineers-in-training, and IT technicians). This team is considered core to crafting and delivery of Asset Management and a comprehensive and appropriate Asset Management System (AMS). The WPiAM core AM designations are as follows:

- Certified Senior Principal in Asset Management (CSAM);
- Certified Practitioner in Asset Management (CPAM); and
- Certified Technical Specialist in Asset Management (CTAM).

These roles are indicated in **Figure 1**. They are represented (on the left-hand side of the diagram) in the form of a career path progression for people to grow or progress within that team structure. Naturally, as noted above, there can also be sideways entrance to any level in the hierarchy by people with specific domain expertise and qualifications (for example engineers, maintenance / reliability practitioners, accountants, business managers) – indeed this should be encouraged. The difference between any of these practitioners in any given domain, and ones that qualify for an AM designation, resides as a minimum in the understanding, and active contribution, to the fit of that domain in the overall AMS and thereby the pursuit of the organisation's objectives through effective AM.

Figure 1- Overview of AM roles linked to the core AM designations



In all cases, the designations also apply to consultants or advisors that are not directly employed in the implementing organisation, but are providing significant strategic advice relating to the various AM roles.

### 6. FUTURE POSSIBILITIES

In some countries there are other designations in use above and below this core. There is work currently underway within the GFMAM on very senior capabilities associated with Asset Management Maturity and once this work is completed a review will be done to determine the value of having globally recognised credentials above the core ones. These designations are:

Certified Executive in Asset Management (CEAM) - Responsibility for governance and making (or securing) formal decisions on the nature of the approval of its products (such as AM Plans and strategies) and allocation of



resources in line with overall organisational objectives, may be allocated to a particular executive and/or director (or member of Top Management, as it is referred to in ISO) in an organisation.

A CEAM role is performed by a member of the executive management team that has understanding and awareness of the processes and concepts of AM and how the outputs are applied to achieving the strategic objectives of the organisation. The CEAM fulfils the Top Management role of governance and executive decision making. In some instances, this role may be combined with that of the CSAM (whose core AM competence is as a lead practitioner); and

**Certified Fellow in Asset Management (CFAM) -** The CFAM designation relates to people that perform a strategic technical leadership role in AM. This can be in the form of contributing significant advances to the AM body of knowledge, generalist or specialist application in unique, complex and / or advanced environments, or in the provision of expert advice.

The other credential used is below the core, and is an entry level designation used to recognise an understanding of the domain of Asset Management, but does not include any evaluation of competence in the practical application of this knowledge, as follows:

Certified Associate in Asset Management CAAM) - The CAAM role is performed by an entrant to an asset-intensive organisation's AM team that is responsible for implementing specific operational task. Typically, this would be as part of an implementation team within a specific domain, and under the management of a CPAM or CTAM. Again, the difference between that person performing those duties, and doing so as a recognised CAAM, is in the understanding of the fundamental concepts of recognised good AM, how it is implemented in the organisation and recognition of the fit and value of their own tasks in terms of the overall AMS, the endeavours of the broader AM Team, and thereby to the objectives of the organisation.

WPiAM is not, at least at this stage, awarding the CAAM, CEAM or CFAM designations. However, it is recognised that WPiAM partners in the respective countries have elected to, or may elect to, adopt and award these directly, in line with the framework for the core designations noted above. The approach will be informed by the operational environment, needs and member demand in these countries.

The full suite of AM designations is illustrated in **Annexure A-I** – indicating the core designations that are the current focus of WPiAM, as well as the others that partners may elect to adopt.

Alternative designation names, or acronyms, may be adopted by individual WPiAM partners depending on local requirements and language, but where those credentials are certified by WPiAM as meeting the criteria of one of the levels of the WPiAM scheme, these partner designations will be explicitly linked to the respective WPiAM designations. The WPiAM designation providing the link between the various partner designations and therefore enabling the international transportability of the certifications.

# 7. MINIMUM REQUIREMENTS

**Table I** provides an overview of the different levels of cognition (thinking, learning and understanding) of AM required for the respective designations of the WPiAM core designations based on the 2001 revised version of Bloom's Taxonomy (**Annexure A-2** shows the full suite of designations). Specific qualifications obtained in any given country need to be interpreted in line with **Table I** (an illustration of this is shown in **Annexure B**).

Table I - Overview of the required levels of cognition linked to WPiAM's core AM designations

Designation	Cognitive Dimension	Knowledge Dimension	Matrix Activity
<b>CSAM</b> Certified Senior Principal in Asset Management	Analysing	Metacognitive	As below, plus:  Order  Explain  Differentiate  Achieve
CPAM Certified Practitioner in Asset Management	Applying	Procedural	As below
CTAM  Certified Technical Specialist in  Asset Management	Applying	Procedural	Classify Experiment Calculate Summarise Interpret

The requirements set by WPiAM for the core AM designations have been informed by the proposed roles and levels of cognition indicated above and are summarised in **Table 2.** The competency requirements for CAAM, CEAM and CFAM are determined by the respective WPiAM partners where these have been adopted.



The competency requirements are made up of three elements:

- Experience;
- Knowledge; and
- Skills.

Table 2- Overview of competency registration requirements for WPiAM's core AM designations

Designation	Experience	Knowledge	Skills				
CSAM	Minimum of 8 years (see Note I) in AM in an asset-intensive or - dependant environment	Minimum qualification as indicated in <b>Table</b> I (typically a university degree) in AM or core discipline related to the role or equivalent (see Note 2); and     CAMA	Demonstrated successful application of required competency directly by the applicant in line with the CSAM role and recognised good practice relating to a significant asset portfolio (see Note 4)				
	Minimum of 5 years (see Note I) in AM in an asset-intensive environment	Minimum qualification as indicated in <b>Table</b> I (typically an advanced diploma from a recognised educational institution) in AM or core discipline related to the role or equivalent (see Note 2); and CAMA	Demonstrated successful application of the required competency directly by the applicant in line with the CPAM role and recognised good practice relating to a significant asset portfolio (see Note 4)				
	Minimum of 2 years (see Note I) in AM in an asset-intensive environment	Minimum qualification as indicated in <b>Table</b> I (typically a diploma from a recognised educational institution) in AM or core discipline related to the role or equivalent (see Note 2); and	Demonstrated successful application of required competency directly by the applicant in line with the CTAM role and recognised good practice relating to a significant asset portfolio (see Note 4)				

**Note 1:** Depending on an Asset Management professional's roles and responsibilities over their working life, and the scale and complexity of the organisation(s) and the asset base (and asset criticality), the time needed to build up a portfolio of demonstrated successful application of Asset Management practice may require additional time (for example for CTAM (2-10 years), CPAM (5-15 years) and CSAM (8-12+ years). i.e. time served needs to be contextualised by application in a blended combination of underpinning discipline and broader Asset Management practice.

**Note 2**: Obtaining a recognised formal qualification is one pathway to acquisition of knowledge, though WPiAM recognises that a lower level base qualification plus appropriate experience can equate to a higher level qualification.

Note 3: The requirements of an 'AM Certificate' at a CTAM level is under development.

**Note 4:** The "significance" of an asset portfolio will be assessed by WPiAM based on information provided by applicant on its nature, size, and risk exposure.

## CAMA

The current CAMA certification is an essential part of this recognition program. CAMA is recognised as allowing individuals to demonstrate they have the knowledge and comprehension of the breadth of the Asset Management paradigm (landscape). It is expected that CPAM and CSAM will have this level of knowledge and comprehension. This certification program builds on the CAMA to address depth and application as an Asset Management professional.

Applicants will need to provide:

- I. Evidence of qualifications from educational institutions recognised by WPiAM, and in line with WPiAM's interpretation of the country-specific qualifications framework (a broad mapping of which is provided in **Annexure B**).
  - and/or
  - Prior learning (including through performance of the relevant roles) will also be recognised when supported through a formal process of assessment.
- 2. Evidence to demonstrate the existence of the required skills in the respective role through current fit-for-purpose application in the organisation, and in line with recognised good practice.

It is noted that competency (knowledge and skill) can also be developed through recognised competency-based training programs.

Applications will be managed by the respective country members of WPiAM, in line with interpretation of the common global requirements and processes agreed with WPiAM for the core AM designations.

### 8. INDUSTRY APPLICATION

The application of the designations to different typical asset-intensive organisations is illustrated in Figures 2 to 5.

**Figure 2** is an example at a small municipality. The CSAM role is performed by the Director: Infrastructure, with specialist support from several other professionals. In line with the broad ambit of AM, these include officials with existing qualifications in finance, risk, information technology, infrastructure life-cycle planning, project and programme management, who have



secured supplementary AM designations to facilitate integration and alignment. It also includes the Operations and Maintenance Manager, who, in this example, obtained an AM-based foundation degree. All these officials are registered as CPAMs. In their respective teams, there are staff that have registered as CTAMs, having obtained AM Certificates to supplement their core technical qualifications.

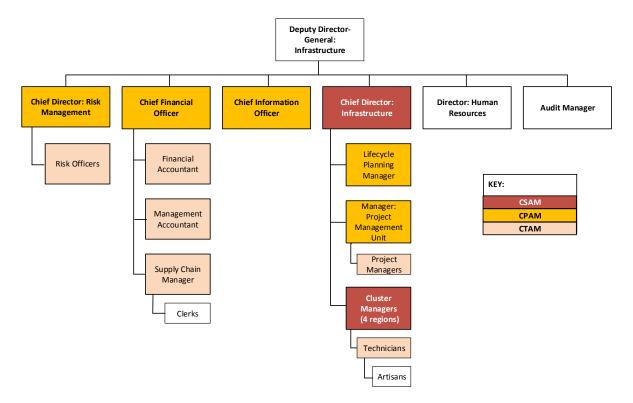
Municipal Manager **Chief Financial** Director: Risk **Chief Information** Director: Human **Director: Operations** Audit Manager Management Officer Officer Resources Lifecycle Financial Risk Officers Accountant Manager KEY: Management CPAM Project Accountant Management CTAM Project Supply Chain Managers Manager Maintenance Technicians Artisans

Figure 2- Example of application of WPiAM's core designations at a small municipality

**Figure 3** is an example of a government department. The organisational structure is similar to the municipal one above, but the scale of operations, and infrastructure, are significantly greater. Regional Managers have responsibility for all the lifecycle activities in their regions and are also therefore required by the organisation to hold CSAM designations. In turn, as with the example in **Figure 2**, they are also supported by specialists across the organisation (some of whom hold posts that are higher in the organisation).

Figure 3 – Example of application of WPiAM's core designations at a government department





**Figure 4** is an example of the application of the designations to an existing organisational arrangement at a large utility company. As with the previous examples, the designations are applied at a number of levels in the organisation, and to a wide range of roles. In this example, the determination of an integrated AMS for the organisation is combined – with a CSAM responsible for strategic and tactical management aspects and another CSAM for operational management aspects.

Figure 4 - Example of application of WPiAM's core designations at a utility company

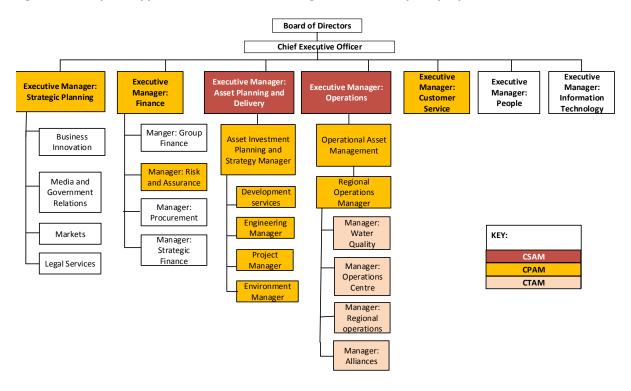
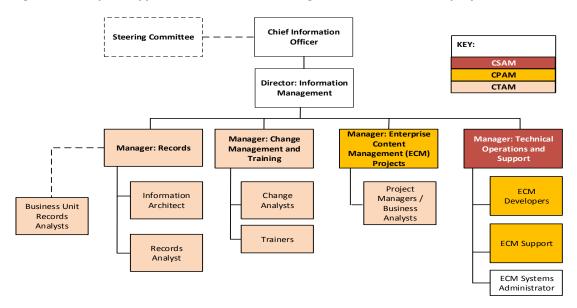


Figure 5 is an example of the application of the core designations to an entity developing software. Again, the designations are applied at a number of levels in the organisation, and to a wide range of roles. The determination of an integrated AMS



(CSAM role) resides with the Manager: Technical Operations and Support, supported in the development of the IT assets by CPAMs, with CTAMs completing the team responsible for project delivery, change management, training and records.

Figure 5 – Example of application of WPiAM's core designations at a software company



The examples in **Figures 2 to 5** illustrate the application of the core designations attached to fundamental roles that need to be performed as part of an effectively integrated team, each being competent in their specific domains, and level in the organisation structure. The successful performance of the team in achieving the organisation's objectives will be influenced significantly by the competency of the individuals in the team, and, in equal measure, their ability to function collectively as a team. It should be clear that the designations are not necessarily an indicator of rank, but of team role.

### 9. CONCLUSION

The paper indicates the framework of core AM designations recognised by WPiAM. These will be applied globally, managed by the organisations that own the credential scheme in the respective countries. As an extension to this, some organisations may consider it appropriate to adopt aligned designations at the entry (CAAM) level in their respective countries, and / or the CEAM and CFAM designations.

WPiAM will periodically review this framework to consider improvement opportunities.



# ANNEXURE A-I - Suite of AM roles noting the current focus of WPiAM

Responsible for STRATEGIC LEADERSHIP in the field AM **EXPERT & Certified Fellow in Asset** Advances the AM Body of Knowledge **DECISION** Leads application in an unique / complex / advanced environment Management (CFAM) MAKING Provides expert advice ROLES (optional by Certified Executive in Asset membei Responsible for EXECUTIVE DECISION MAKING (based on information provided) Management (CEAM) organisations) Responsible for establishment, updating and management oversight of application of AN INTEGRATED AMS **Certified Senior Principal** ACROSS a significant area of business in Asset Management Recommends policy, strategy, tactics and procedures Drives AM application and improvement (CSAM) Monitors and reports outcomes CORE Responsible for establishment, updating and management oversight of application of A SPECIFIC DOMAIN FUNCTIONAL **Certified Practitioner in** within an integrated AMS ROLES **Asset Management** Prepares and recommends policy, strategy, tactics and procedures (WPIAM AM (CPAM) Drives application and improvement designations) Responsible for LEADING TECHNICAL APPLICATION and management of an element of a specific domain **Certified Technical** within an integrated AMS **Specialist in Asset** Informs technical aspects of the AMS in the specific domain Management (CTAM) Leads team(s) in technical application Certified Associate in **ENTRY ROLES** Responsible for IMPLEMENTING SPECIFIC OPERATIONAL TASKS as part of an AM team Asset Management (optional by WPIAM member Implements, coordinates and reports in the context of a documented AMS (CAAM) organisations)

# ANNEXURE A-2 Overview of the required levels of cognition noting the current focus of WPiAM

Designation	Cognitive Dimension	Knowledge Dimension	Matrix Activity	
CFAM - Certified Fellow in Asset Management	Creating	Metacognitive	As below, plus:  Combine Plan Compose Actualise	EXPERT & DECISION
CEAM - Certified Executive in Asset Management	Evaluating	Metacognitive	As below, plus:  Rank  Assess  Conclude  Action	MAKING ROLES (optional by WPiAM member organisations)
CSAM - Certified Senior Principal in Asset Management	Analysing	Metacognitive	As below, plus:  Order  Explain  Differentiate  Achieve	CORE FUNCTIONAL
CPAM - Certified Practitioner in Asset Management	Applying	Procedural	As below	ROLES (WPIAM AM designations)
CTAM - Certified Technical Specialist in Asset Management	Applying	Procedural	As below, plus:  Classify Experiment Calculate	
CAAM - Certified Associate in Asset Management	Understanding	Conceptual	Summarise     Interpret	ENTRY ROLES (optional by WPIAM member organisations)

WPIAM AM designations paper

ANNEXURE B – Mapping of the WPiAM International Asset Management Certification Framework to various country qualification frameworks (CTAM to CSAM), noting that the CEAM and CFAM designations are not part of the initial scheme but are shown for context

Certification		Country Qualification Frameworks																		
Level, Structure	Αι	Australia AQF South Afri		outh Africa NQF	Africa NQF UAE QFEMERATES		Scottish SCQF		Englan	d, Wales and NI NQF & HEQ	EU Eur	opean Qualifications Framework	Canada - Ontario		USA	Japan	Bra	ızil		
Structure			Level I	Grade 9	Level I	Certificate I	Level 4	Intermediate I General Standard Grade Scottish Vocational Qualifications (SVQ) I National Progression Awards National Certificates	Level I	NVQ Level I Vocational Qualifications Level I GCSEs at grade D – G ESOL skills for life Foundation Diplomas Functional Skills Level I (English, mathematics & ICT										
СТАМ	Level I	Certificate I	Level 2	Grade 10 and National (vocational) Certificates level 2	Level 2	Certificate 2	Level 5	Intermediate 2 Credit Standard Grade SVQ 2 National Progression Awards National Certificates	Level 2	NVQ Level 2 Vocational Qualifications Level 2 GCSEs at grade A* - C	Level I	Primary education certificates Basic VET qualifications	Level I	Certificate I						
	Level 2	Certificate II	Level 3	Grade II and National (vocational) Certificates level 3	Level 3	Certificate 3				ESOL skills for life Higher Diplomas Functional Skills Level 2 (English, mathematics & ICT)	Level 2	Lower-secondary education Basic VET qualifications	Level 2	Certificate 2						
	Level 3	Certificate III	Level	Senior Certificate) and National	Level 4	Certificate 4	Level 6	Highers SVQ Technical Apprenticeship Level 3 Professional Development Awards National Progression Awards National Certificates Higher National Certificates	Level 3	NVQ Level 3 Vocational Qualifications Level 3 GCSE AS and A Level Advanced Diplomas	Level 3	Secondary education certificates; VET qualifications	Level 4	Certificate of Apprenticeship  Certificate of Qualification						
	Level 4 Certificate	Certificate IV			Level 5	Diploma, Associate Degree	Level 7	(HNC) Certificates of Higher Education (CertHE)	Level 4	Vocational Qualifications Level 4 Higher National Certificates (HNC) Certificates of Higher Education (CertHE)	Level 4	Upper secondary general education certificates; VET qualifications	Level 5	Certificate 3  Diploma 1						
	Level 5	Diploma	Level 5	Higher Certificates and Advanced National (vocational) Cert.		7,4000,400	Level 8	Higher National Diplomas (HND) SVQ Technical Apprenticeship Level 4 Higher National Diploma Diplomas of Higher Education	Level 5	(HNC) Vocational Qualifications Level 5 Foundation Degrees	Level 5	SCHE qualifications Higher professional qualifications	Level 7	Diploma 2	_					
	Level 6	Associate degree, Advanced diploma	Level 6	National Diploma and Advanced certificates	Level 6	Higher Diploma, Advanced diploma							Level 8	Advanced Diploma  Post-Diploma Certificate	Associate Degree					
СРАМ	Level 7			Level	Level	Bachelor's degree, Advanced Diplomas,	Level 7	Bachelor (Applied) Bachelor		(DipHE)  Bachelor's/Ordinary Degrees Professional Development Awards SVQ Technical		Diplomas of Higher Education (DipHE) Higher National Diplomas (HND)	-		Level 10	Baccalaureate/	Bachelor degree	Bacheloi degree		Bachelor degree
				Post Graduate Certificate and B- Tech			Level 9	Apprenticeship Level 4 Graduate Diplomas Graduate Certificates		Bachelor's Degrees Professional Graduate Certificate in Education (PGCE)		First cycle degrees (Bachelor) IE: Honours Bachelor Degree Higher professional qualifications DE: 'Master Craftsman (certified)'		2 38, 33	First Professional					
CSAM		Bachelor Honours Degree				Post Graduate Diploma	Level	Bachelor's Degrees with Honours Professional Apprenticeship			Level 6			Baccalaureate/	Degree					
<b>ДМ</b> 5 WPiAМ eme)	Level 8	Graduate Certificate Graduate Diploma	Post Graduate	Level 8	·	10	Graduate Diploma Graduate Certificates		Graduate Diplomas Graduate Certificates			Level II	Bachelor's — Degree: Honours	Advanced certificates						
CFAM (outside	Level 9	Master's Degree (research) Master's Degree (coursework) Master's Degree (extended)	Level 9	Qualifications	Level 9	Master (Applied) Master	Level II	Integrated Master's Degrees Postgraduate Certificates	Level 7	Fellowships NVQ Level 5 Vocational Qualifications Level 7 Master's Degrees Integrated Master's Degrees Postgraduate Diplomas Postgraduate Certificate in Education (PGCE) Postgraduate Certificates	Level 7	Second cycle degrees (Master) Higher professional qualifications CZ: 'Chemical engineer product 'manager'	Level 12	Master's Degree	Master's Degree, Post-Master's Degree/Certificate, Diploma/Certificate , Degree of Education Specialist:	Master's Degree		Master's Degree		
WPiAM scheme)	Level 10	Doctoral Degree	Level 10	Doctoral Degree	Level 10	Doctoral Degree	Level 12	SVQ Professional Apprenticeship Doctoral Degrees	Level 8	Doctoral Degree Vocational Qualifications Level 8	Level 8	Third cycle degrees (Doctorate) Higher professional qualifications EE: occ. qual. 'Chartered Engineer'	Level 13	Doctoral degree	Research Doctorate			Doctoral degree		