**Apprenticeship Initial Needs Analysis**

**Level 7 Research Scientist (MSc Data Science Professional)**

As part of your application for the Level 7 Research Scientist (MSc Data Science Professional) apprenticeship programme you will need to review all elements of the apprenticeship standard (outlined in Section 3 below) to identify any potential overlap between this standard and any prior learning or work experience you may have. This information is a requirement of the Education and Skills Funding Agency which governs all apprenticeship programmes. This form will help you to identify any knowledge and skills you may already have, and shows the knowledge and skills that you will gain while on the programme.

If you enter a ‘1’ in section 3 you must provide documentary evidence or testimony from your line manager and return it to us with this form.

Entering a ‘1’ is confirmation from you that you are fully competent in that area and is **equal to the level we would expect you to have at the end of the programme, not, at the beginning.**

**Please note if you are competent in and can provide evidence for the majority of the skills and knowledge listed below, then you may not be eligible to take part in this programme.**

Entry requirements for this programme are: **A good numerate degree (or relevant Data Science work experience) and sufficient competency in Maths and the Python programming language.** The expected competency level for Maths and Python is indicated via self-assessment worsksheets that are sent out with the application link.

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| **Name: Syed Javedhussain** | **Employer: VISA Europe** |

Section 1 – Qualifications

**Section 1.1** Do you have any higher education qualifications?

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | YES | If you have checked this box then please go to **Section 1.2** | | | | | |
|  | NO | If you do not have any higher education qualifications then please go to **Section 2** | | | | | |
| **Section 1.2** | | | | Level 4 (e.g. HNC) | Level 5 (e.g. HND / foundation degree) | Level 6 ( e.g. Undergraduate Degree) | Level 7/8  (e.g. MSc / Postgraduate study) | Other higher education qualification |
| Please indicate your highest level qualification here | | | |  |  |  | MCA – Master of Computer Applications |  |
| Please provide the name of the qualification achieved, including subject area | | | | Mathematics, Computer Science, Operating Systems, Programming Languages C, Java, Python. | | | | |

Now complete **Section 2**

Section 2 – Relevant Work Experience

Do you have any previous relevant **Data Science work** experience?

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| --- | --- | --- |
|  | YES |  |
|  |  |  |

If you have answered **YES** to **either** of the questions in Sections 1 & 2 above, then please complete **Section 3** below.

If you have answered **NO** to **both** questions in Sections 1 & 2 above, then please go to **Section 4** at the end of this document, sign / date the form and return to us.

Section 3 – Knowledge and Skills

Please rate your current level of competency for the following Knowledge and Skills. Please refer to the key below. Please note, if you rate yourself 1 for any of the criteria then you must describe what evidence you could provide to show your competence.

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| --- | --- | --- | --- | --- | --- |
|  | **Knowledge** | **1** | **2** | **3** | **If you have entered a competence of ‘1’, briefly describe how you feel you have met this criteria and the type of evidence you could provide** |
| **K1** | Subject specific knowledge: A deep and systemic understanding of a named / recognised scientific subject as found in an industrial setting,  such as biology, chemistry or physics, found in the nuclear, food manufacture, pharmacology or energy production sectors,  at a level that allows strategic and scientific decision making, while taking account of inter relationships with other relevant business areas / disciplines. |  |  | 3 |  |
| **K2** | Management, leadership and effective communication: Organisation objectives and where their role contributes to the success achievement of these objectives. How to communicate effectively with a wide range of senior leaders across different departments, up and down the supply chain, within their own team. Advanced mixed media communication, such as presentations, report writing (technical and non-technical) negotiation and influencing. Leadership within a team of multi discipline specialists at different levels across the organisation, ensuring a shared vision and commitment to success. Effective project management as used in their employer’s environment with regard to quality, cost and time. The employer's organisational structure and where their own role fits. |  | 2 |  |  |
| **K3** | Ethics, regulation and registration: All current relevant national and international regulations needed to carry out the role. This will include scientific regulation, health and safety and laboratory safe practice, anti-bribery and anti-corruption. Ethical scientific practice and the employers' processes and procedures surrounding professional conduct. How to identify, record, mitigate and manage risk. The impact of failure and how to manage risk on the business. The benefits of equality of diversity in the workplace. |  |  | 3 |  |
| **K4** | Research methodologies: Methodologies appropriate to the sector and how to formulate and apply a hypothesis. Appropriate application of scientific process. The unpredictability of research projects and the need to adapt and adjust daily planning needs to accommodate new developments. |  |  | 3 |  |
| **K5** | Data analysis and evaluation: Statistical analysis techniques, numerical modelling techniques and how they are applied in context. How to interpret and categorise data to make informed and objective decisions against the goals and targets of the project. How to evaluate and interpret the data and associated analysis against company objectives. |  | 2 |  |  |
| **K6** | Data management: How to safely store and handle data in line with national and international data protection and cyber security regulations that apply to the role. How to manage and store data in line with employer processes and security approach. How to create an appropriate data management plan. |  | 2 |  | As my role is a Data Engineer, I work on data tech stack to perform ETL operations. |
| **K7** | Entrepreneurial and enterprise: How to consider a multisolution approach to the objective in the key stages of a project. Market analysis awareness (SWOT / PESTLE / feasibility studies) and how to assess the impact of the project on the business. Intellectual property rights as they apply to the role and specific projects. Value for money and the ability to use market analysis to make go / no go decisions. |  |  | 3 |  |
| **K8** | Development of self and others: The importance of continuing professional development and how to maintain their own specialist knowledge in an ever evolving environment. How to effectively coach and mentor colleagues, peers or team members to address identified skills gaps, using appropriate methods. How to upskill non-technical colleagues to enable them to complete their own role as needed. |  | 2 |  | I like doing brainstorming a lot, as I believe sharing is learning. |

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|  | **Skills** | **1** | **2** | **3** | **If you have entered a competence of 1, briefly describe how you feel you have met this criteria and the type of evidence you could provide** |
| **S1** | Scientific Knowledge: Apply a range of advanced, new and emerging practical and experimental skills appropriate to the role (e.g. chemical synthesis, bio analysis, computational modelling). |  |  | 3 |  |
| **S2** | Data Collection and Reporting: Capture and evaluate data critically drawing a logical conclusion, e.g. Case Report Forms, Data Management Plans, Data Review Plans, edit checks and User Acceptance Testing Plans. |  | 2 |  | As my role is a Data Engineer, We work on the Agile methodology. We do generate a reports for the clients. We do perform UAT. |
| **S3** | Commercial and Business Issues: Identify issues, including intellectual property and the commercial demands of the business environment. Understand the scientific objectives of work undertaken and its relevance to the organisation. |  |  | 3 |  |
| **S4** | Communication Skills: Write extended reports and critique others' work across a range of documentation, e.g. protocols, consent forms and scientific reports. Deliver oral presentations and answer questions about their work and/or the work of their team. Utilise interpersonal skills, communication and assertiveness to persuade, motivate and influence. Discuss work constructively and objectively with colleagues, customers and others; respond respectfully to and acknowledge the value of alternate views and hypothesis. |  | 2 |  | I can communicate well in English. As I’m also a Facilitator of Visa University, I communicate with all learners weekly once to support on Spark program. |
| **S5** | Project Management and Leadership: Generate effective project plans to include management of scope, schedules, budget and risk. Organise resources, budgets, tasks and people.  Co-ordinate team activities to meet project requirements and quality processes. Adapt scientific strategy/delivery to be consistent with requirements, e.g. client, regulatory, ethical, geographic. |  | 2 |  | We do create a reports for our clients. |
| **S6** | Critical Thinking: Conceptualise, evaluate and analyse information to solve problems. |  | 2 |  | I have an ability to think and apply the solutions. |
| **S7** | Research and dissemination: Frame research questions and methodology drawing from current sources e.g., literature and databases. They can produce intellectual insight and innovations in their own discipline to be shared with colleagues, peers and wider stakeholders internal and external to the business. |  | 2 |  | I do lot of research on new concepts and always update us with the latest stack. |
| **S8** | Developing others: Apply a range of coaching and mentoring techniques with colleague’s peers and team members, selecting the correct method to suit the situation and the person being coached / mentored. |  | 2 |  | I can communicate well in English. As I’m also a Facilitator of Visa University, I communicate with all learners weekly once to support on Spark program. |

Section 4

**To be signed by the apprentice:**

**Skills and prior learning**

I confirm that the information provided above is accurate to the best of my knowledge.

**Maths and Python programming course prerequisite**

I confirm that I have received the Maths and Python worksheets and have compared my answers with the answer sheet provided. I am confident that I am at (or have attained), the expected competency level in both Maths and Python required for joining this programme.

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| Apprentice Signature | Syed Javedhussain | Date | 24-11-2021 |

**To be signed by apprentices work place Line Manager**:

1.1 I can confirm that the apprentice’s current job role will allow them opportunities to develop their competencies in the areas listed above, and that over the duration of the programme the apprentice will have the opportunity to:

* work on a significant work-based Data Science project
* lead on a process or project that involves a variety of internal and external stakeholders, from different levels within the organisation
* coach and/or mentor colleagues.

1.2 The apprentice will be assigned a Workplace Mentor by their employer who may be their line manager (but does not have to be).

1.3 The apprentice will have the regulatory minimum requirement of having 20% of their working hours away from their current job role to fulfil the requirements of the apprenticeship programme.  Line managers should ensure that the apprentice’s workload is reduced by 20% to allow for the apprenticeship – it is not sufficient to ask apprentices to just complete their normal work role in 80% of their time.

1.4 Project work should be supported by an appropriately experienced supervisor or mentor within the workplace – ideally someone with Data Science experience. This does not have to be their workplace mentor but something that the workplace mentor could assist with setting up/facilitating. Full details of the assessment methods used during the End Point Assessment process can be found in the Level 7 Research Scientist [Assessment Plan](https://www.instituteforapprenticeships.org/media/2917/st0759_research-scientist_l7_-for-publication_revision_110419.pdf).

I have reviewed and agree with the information provided above.

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| Apprentices’ Line Manager Name | Chittari, Balakrishna | Date | 26-11-2021 |
| Apprentices’ Line Manager Signature |  |  | 26-11-2021 |

Please note your application will not be processed until this form has been completed in full and returned to us.