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| **Key** | |
| K | Knowledge |
| S | Skill |
| B | Behaviour |

**Level 7 Research Scientist KSB Mapping**

**Assessment method 1: project report, presentation and questioning (based on pre-gateway work-based project )**

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| **KSB’s** | **KSB statement** | **Grade Descriptor Pass** | **Grade Descriptor**  **Distinction** |
| 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. | (K1.1 & S1.1) Makes strategic and scientific decisions based on a deep and systemic understanding of a named / recognised scientific subject (as found in an industrial setting) and demonstrates the use of a range of advanced, new and emerging practical and experimental skills to support these decisions. | (K1.2 & S1.2) Evaluates the importance of strategic and scientific decision-making by drawing on relevant theory or literature and links this to a range of advanced, new  and emerging practical and experimental skills. |
| 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). |
| 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 | (K4.1) Uses and explains research methodologies and scientific processes appropriate to the sector and applies these to form a hypothesis. Explains any unpredictability of the research project undertaken and any adaptations made as a result of new developments. | (K4.2) Critically evaluates all aspects of the research project undertaken and the identified adaptations and/or improvements. Describes the anticipated impact of these on future projects and the wider business in terms of colleagues and finance. |
| 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. | (K5.1) Uses statistical analysis and numerical modelling techniques and explains how they were applied. Explains the application of this analysis clearly and coherently, including how data interpretation informed decisions against the goals and targets of the project and company objectives. | (K5.2) Justifies the use of statistical analysis and numerical modelling techniques used explaining why the techniques used were most appropriate to the project. |
| 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. | (K6.1) Explains how they have handled data in the project in-line with GDPR and the employer’s processes, including how to create a data management plan. | (K6.2) Explains the consequences of not following employer processes and not working in-line with GDPR. |
| 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. | (S2.1) Captures, analyses and critically evaluates data utilising at least one statistical tool or analytical technique to draw logical conclusions. | (S2.2) Captures, analyses and critically evaluates data utilising a range of statistical tools or analytical techniques to draw logical conclusions. |
| 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. | (S4.1) Structures the project report clearly and includes critique of others' work across a range of documentation. Explains how best to present and communicate key content and messages, whilst respecting and acknowledging the value of alternative  views. | (S4.2) Analyses, evaluates and compares complex data across a broad range of documentation and presents complex scientific information to an appropriate target audience with insightful discussion, including clear and comprehensive interpretation. |
| 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. | (S7.1) Uses research methodology based on current sources and presents intellectual insight and innovations suitable for internal and external stakeholders. | (S7.2) Evidences sustained research of significant and relevant published literature with all key information cited. Presents intellectual insight and analyses, evaluates and compares complex data both within the research project and with the wider literature. |
| Planning, Prioritisation and Organisation | Effective time management. | (B6.1) Presents the research project plan and explains how deadlines were achieved and how the project fits into business objectives. | (B6.2) Explains how they have worked to and met specific target timescales independently whilst prioritising tasks to meet business needs. |

**Assessment Method 2: Professional Discussion (based on vocational competence, training and development portfolio)**

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| **KSB’s** | **KSB statement** | **Grade Descriptor Pass** | **Grade Descriptor**  **Distinction** |
| 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 employers organisational structure and where their own role fits | (K2.1 & B1.1) Describes where their role has contributed to the successful achievement of an organisational objective and provides examples of when they have communicated effectively with a wide range of senior leaders across different departments.  (K2.2 & B1.2) Demonstrates examples of advanced mixed media communication, such as presentations, report writing (technical and non-technical) negotiation and influencing.  (K2.3 & B1.3) Describes examples of when they have provided leadership within a team of multi discipline specialists at different levels across the organisation, ensuring a shared vision and commitment to success.  (K2.4 & B1.4) Describes examples of how their project management was used in their employer’s environment with regard to quality, cost and time.  (K2.5 & B1.5) Describes the employers organisational structure and where their own role fits. | (K2.6 & B1.6) Provides an example of when they have led a process leading to the achievement of an organisational objective and how their project management skills had a positive impact on quality and cost.  **AND**  (K2.7 & B1.7) Can describe the leadership styles that exist in their workplace and can compare and contrast these with theory. |
| Team Working | Collaboration, influence, and respect for others |
| 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 employer’s 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. | (K3.1) Explains current relevant national and international regulations needed to carry out their role, including the benefits of equality and diversity in the workplace.  (K3.2) Explains how to identify, record, mitigate and manage risk and the impact of failure. | (K3.3) Can cite best practice examples of risk management in research and compare and contrast these to practices in their own organisation, identifying possible opportunities for improvement. |
| Entrepreneurial and enterprise | How to consider a multi solution 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. | (K7.1) Provides an example of where they have used market analysis tools (SWOT / PESTLE / feasibility studies) to assess the impact of the project on the business, including decisions made in terms of value for money.  (K7.2) Describes the key aspects of intellectual property rights and how they apply to the role and specific projects. | (K7.3) Can describe the implication of intellectual property rights and how they apply to specific projects. |
| 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. | (K8.1) Describes the importance of continuing professional development and how to maintain their own specialist knowledge in an ever-evolving environment.  (K8.2) Provides examples of when they have effectively coached and mentored colleagues, peers or team members (including non-technical colleagues) to address identified skills gaps, using appropriate methods. | (K8.3) Describes an example of when they have coached or mentored colleagues, peers or team members and identifies the benefits of this. |
| 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. | (S3.1) Describes an example of where they have identified an issue involving intellectual property and the commercial demands of the business environment and its relevance to the outcome of the project and organisational impact. | (S3.2) Describes an analysis of the relevance of intellectual property on the outcome of the project and the impact this could have on the organisation. |
| Communication Skills | 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. | (S4.1, B1.1 & B4.1) Explains how they have utilised interpersonal skills, communication and assertiveness to persuade, motivate and influence.  (S4.2, B1.2 & B4.2) Describes an example when they have discussed work constructively and objectively with internal and external stakeholders whilst managing expectations. | (S4.3, B1.3 & B4.3) Explains examples of when they have:  a) contributed to the knowledge base and understanding of team members via clear interpersonal skills and effective communication  including assertiveness and motivation, and the impact this had on the organisation  b) taken personal responsibility and defended decisions in unpredictable professional situations. (In doing so they demonstrate a clear commitment to personal values of professionalism, ethical practice, inclusivity and ongoing personal development, together with a willingness to plan and manage effective change) |
| Team Working | Collaboration, influence, and respect for others. |
| Management of Expectations | Of senior management, study sponsors, vendors, investigational sites and key opinion leaders. |
| 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. | (S5.1) Describes the key elements of effective project plans to manage scope, schedules, budget and risk.  (S5.2) Describes examples of when they have organised resources, budgets, tasks and people and co-ordinated team activities to meet project requirements and quality processes.  (S5.3) Describes how to adapt scientific strategy/delivery to be consistent with requirements. e.g. client, regulatory, ethical, geographic. | (S5.4) Can describe examples of when they have adapted scientific strategy or delivery to consistently meet requirements. e.g. client, regulatory, ethical, geographic. |
| Critical Thinking | Conceptualise, evaluate and analyse information to solve problems. | (S6.1) Provides examples of when they have conceptualised, evaluated and analysed information to solve problems. |  |
| 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. | (S8.1) Describes examples of when they have applied 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 or mentored. | (S8.2) Compares and contrasts a range of coaching and mentoring techniques and how each is selected to suit the situation and the person being coached / mentored. |
| Team Working | Collaboration, influence, and respect for others. |  | (B1.1) Compares and contrasts collaborative working techniques and how / why these should be selected. Draws on ideas and theories on team working to justify  decisions on communication styles and working practices. |
| Flexibility and Adaptability | Responsiveness to change, adjusting to different conditions, technologies, situations and environments. | (B2.1) Explains an example of when challenges have been overcome requiring resilience despite setbacks. | (B2.2) Critically evaluates an example of when they have overcome a challenge despite setbacks whilst maintaining professionalism and how this has contributed to ongoing personal development. |
| Integrity and Reliability | Respect for the confidentiality of individuals and company information. An intrinsic ethical stance to all aspects of day to day activities. Reputation of trust internally and externally. | (B3.1 & B5.1) Describes examples of consistent, safe, confidential, ethical and professional working practices, keeping themselves safe, including examples of leadership and followership. | (B3.1 & B5.1) Describes best practice in safe, confidential and professional working practices relating to leadership and followership. Can describe personal achievements of professionalism and gaining trust of others. |
| Accountability | For self and others to ensure that actions are in the best interest of affected parties. |
| Management of Expectations | Of senior management, study sponsors, vendors, investigational sites and key opinion leaders. | (B4.1) Explains an example of when they have managed the expectations of senior management, study sponsors, vendors, investigational sites and key opinion leaders. | (B4.2) Describes successful management of the expectations of senior management, study sponsors,  vendors, investigational sites and key opinion leaders and evaluates the most effective techniques to use with each. |
| Continuing Professional Development (CPD) | Accountability of own and others development needs, undertaking CPD. Curiosity of science and proactively develops knowledge to ensure that scientific and business decisions are based on strong science. | (B7.1) Describes the importance of CPD backed up by planning and/or demonstrating intent, including relevant accreditations /licenses applicable to role. | (B7.2) Explains the importance of CPD with regards to project planning and progress and the impact this has on themselves and the organisation. |