QUALIFICATION FILE – Micro Credentials

Fundamentals of Data Visualization with Tableau

☒ **Public** ☐ **Private**

☒ **Upskilling** ☐ **Dual/Flexi Qualification** ☐ **For ToT** ☐ **For ToA**

☒**General** ☐ **Multi-skill (MS)** ☐ **Cross Sectoral (CS)** ☐ **Future Skills** ☐ **OEM**

NCrF/NSQF Level: 4.5

Submitted By:

Additional Skill Acquisition Programme Kerala (ASAP Kerala)
KINFRA Film and Video Park, Sainik School P.O.,
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Section 1: Basic Details

1.	**Micro Credential-Qualification Name**	Fundamentals of Data Visualization with Tableau	
2.	**Sector/s**	ITeS	
3.	**National Qualification Register (NQR) Code & Version** *(Will be issued after NSQC approval.)*	NM-4.5-IT-02990-2024-V1-ASAP	**4. NCrF/NSQF Level: 4.5**
5.	**Brief Description of the Micro Credential**	This Micromodule takes the learner from introductory Tableau concepts like building basic visualizations to advanced techniques like crafting compelling dashboards and mastering data visualization. Dive deep into real-world applications and case studies to solidify learners' skills and become a Tableau expert.	
6.	**Eligibility Criteria for Entry for Students/Trainee/Learner/Employee**	a. **Entry Qualification & Relevant Experience**	

a. **Entry Qualification & Relevant Experience**

Sl. No.	Academic/Skill Qualification (with specialization - if applicable)	Relevant Experience (with specialization- if applicable)
1	Completed 1st year of 3-year/ 4-years UG in CS/EC/EEE/Mech/IT/BCA BSc Statistics/ Mathematics/ Physics/ Chemistry/BCom	No experience required
2	Completed 3 year diploma in CS/IT after 10th	No experience required
3	Pursuing 1st year of 3-year/ 4-years UG and continuing education in CS/EC/EEE/Mech/IT/BCA BSc Statistics/ Mathematics/ Physics/ Chemistry/BCom	No experience required
4	Pursuing 3rd year of 3-year diploma in CS/IT after 10th and continuing education	No experience required
5	Completed 1st year of 2 year diploma in CS/IT after 12th	No experience required
6	Pursuing 2nd year of 2- year diploma in CS/IT after 12 and continuing education	No experience required

b. **Age**: NA

7.	**Credits Assigned to this Qualification, Subject to Assessment** *(as per National Credit Framework (NCrF))*	1 Credit	8.	**Common Cost Norm Category (I/II/III)** *(wherever applicable)*: **II**
9.	**Any Licensing Requirements/ Pre-requisites for Undertaking Training** *(wherever applicable)*	1.Tableau Software Package		

10.	**Expected Outcomes of the Micro Credential**	Terminal learning outcomes are: Learners will adeptly navigate Tableau's interface, understand its installation procedures, and comprehend the pivotal need and significance of Tableau in data-driven decision-making processes. Participants will gain proficiency in crafting compelling narratives and visually engaging dashboards, showcasing their ability to analyze data effectively using Tableau's powerful tools. By delving into advanced Tableau applications, learners will refine their skills, leveraging the platform's robust features to tackle complex data scenarios and create sophisticated visualizations for strategic insights.

11.	**Training Duration by Modes of Training Delivery** *(Specify **Total Duration** as per selected training delivery modes and as per requirement of the qualification)*	☒ **Offline Only** ☒ **Online Only** ☐ **Blended**

Training Delivery Mode	Theory (Hours)	Practical (Hours)	Total (Hours)
Classroom (offline)			
Online	10	20	30

12.	**Assessment Criteria**

Theory (Marks)	Practical (Marks)	Attendance	Internal Assignment	Project/Case Studies (Marks)	Viva (Marks)	Total (Marks)	Passing %age
25	25	10	20	10	10	100	50%

13.	**Is the Qualification Amenable to Persons with Disability**	☐ Yes ☒ No If "Yes", specify applicable type of Disability: NA
14.	**How participation of women will be encouraged?**	**Programs conducted by ASAP Kerala is gender neutral**
15.	**Other Indian Languages in which the Micro Credential will be implemented.**	**Hindi**
16.	**Is similar Micro Credential Qualification(s) available on NQR-if yes, justification for this qualification**	☐ Yes ☒ No URLs of similar Qualifications: NA

17.	Name and Contact Details Submitting / Awarding Body SPOC	Name: Dr. Usha Titus		
		Email: cmd@asapkerala.gov.in , curriculum@asapkerala.gov.in		
		Contact No.: 0471 2772500		
		Website: www.asapkerala.gov.in		
18.	NSQC Approval Date: 27/08/2024	19. Validity Duration:27/08/2027		20. Next Review Date: 27/08/2027

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Section 2: Training Related

1.	**Trainer's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	Bachelor's degree in Engineering/Arts/Science with at least three years of experience in IT sector/Software development/Data Management/Data Analytics/Business Analytics. Certified for the Job Role "Trainer (VET and Skills), mapped to the Qualification Pack "MEP/2601, V2.0" with minimum score of 80%.
2.	**Master Trainer's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	Bachelor Degree in Engineering/Arts/Science with at least five years of experience in IT sector/Software development/Data Management/Data Analytics/Business Analytics. Certified for the Job Role "Master Trainer (VET and Skills), mapped to the Qualification Pack "MEP/Q2602, V2.0" with minimum score of 80%.
3.	**Tools and Equipment Required for Training**	☒ **Yes** ☐ **No** (*If "Yes", details to be provided in Annexure*)

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Section 3: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	Bachelor Degree in Engineering/Arts/Science with at least five years of experience in IT sector/Software development/Data Management/Data Analytics/Business Analytics. Certified for the Job Role "Assessor (VET and Skills), mapped to the Qualification Pack "MEP/Q2701,V2.0" with minimum score of 80%.
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	Bachelor Degree in Engineering/Arts/Science with at least five years of experience in IT sector/Software development/Data Management/Data Analytics/Business Analytics.
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per requirement and NCVET guidelines)*	Bachelor Degree in Engineering/Arts/Science with at least five years of experience in IT sector/Software development/Data Management/Data Analytics/Business Analytics.
4.	**Assessment Mode** *(Specify the assessment mode)*	**Mode:** ☒ **Online Only** ☒ **Offline Only** ☐ **Blended**
5.	**Tools and Equipment Required for Assessment**	☒ **Same as for training** ☐ **Yes** ☐ **No** *(details to be provided in Annexure-if it is different for Assessment)*

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Section 4: Evidence of Need of the Micro Credential

As per the NCVET Guidelines for evidence of need, provide the required Annexure/Supporting documents.

1.	Government /Industry initiatives/ requirement (Yes/No): Yes, Study report attached
2.	Number of Industry validation provided: 12 (Annexure 5)
3.	Estimated number of people to be trained: 3000 (Annexure 6)

Section 5: Annexure Check List

Specify Annexure Number and Name.

1.	**Annexure:** NCrF/NSQF level justification based on NCrF Level/NSQF descriptors *(Mandatory)*	Annexure 1: Evidence of Level
2.	**Annexure:** Learning Outcomes and Assessment Criteria *(Mandatory)*	Annexure 2: Learning Outcomes and Assessment Criteria
3.	**Annexure:** Assessment Strategy *(Mandatory)*	Annexure 3: Assessment Strategy
4.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory – Except in case of online course)*	Annexure 4: List of Tools and Equipment
5.	**Annexure:** Blended Learning *(Mandatory in case selected mode of delivery is "Blended Learning")*	Not applicable
6.	**Annexure:** Acronym and Glossary *(Optional)*	Annexure 8: Acronym and Glossary

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Annexure 1: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Professional Theoretical Knowledge/Process	Deeper knowledge and understanding of specialized field of technology / skills/ job role and its underlying principles.	NOS enables the learner to acquire deeper knowledge and understanding of specialized technology, here in this case data visualization using Tableau	4.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	Possesses a range of professional and technical skills, displays clarity of knowledge and practice in broad range of activities/tasks. Project Management Skills. Very good in data collecting organizing information and analysis	NOS enables the learner to acquire a range of professional and technical skills, displays clarity of knowledge and practice broad range of tasks. This NOS also gives an idea of project management, equip student in data collection, organizing information, analysis and communication of results for informed decision making.	4.5
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Very good in complex calculations, and mathematical and financial analysis skills for applied solution	Outcomes matches with the job role proposed, training helps the learners to gain mathematical and financial analysis skills for application level.	4.5

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NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Broad Learning Outcomes/Core Skill	Demonstrates a wide range of specialized professional and technical skill in broad range of activity involving standard and non-standard practices. Apply the acquired specialized knowledge and a range of cognitive and practical skills to accomplish tasks like basic design, prototyping, testing so as to solve problems by selecting appropriate information, methods, tools, and materials	Specialized professional knowledge and technical skill in broad range of activity involving data analysis and visualization. Training enables the trainer to acquire a range of cognitive and practical skills to accomplish tasks, to solve problems by selecting appropriate information, methods, tools and materials.	4.5
Responsibility	Highly skilled Technical Supervisor responsible for achieving tangible outcomes, managing change, building teams, and mentoring the workforce.	The learning outcomes aligns with the level of enabling the learner for upskilling in the career into a highly skilled technical supervisor.	4.5

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Annexure 2: Learning Outcomes and Assessment Criteria

Detailed learning outcomes and assessment criteria for the qualification are as follows:

Sl. No.	Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
1	**Module 1:** Introduction to Data Visualization and Tableau - Introduction to tableau interface, Navigation and Installation, Need and Significance of Tableau, Storytelling and building first visualizations.	5	2		
	PC1: Fundamental idea about Data visualization.				
	PC2: Idea about Tableau Interface and navigation.				
	PC3: Idea to connect Tableau to various data sources.				
	PC4: Idea about how various sectors leverage its capabilities for enhanced performance.				
	PC5: Knowledge about the comparative analysis.				
2	**Module 2:** Tableau dashboard creation, Data Preparation and Transformation, Data analysis with Tableau.	5	3		
	PC6: Knowledge to utilize Tableau's features to present compelling and coherent data-driven stories.				
	PC7: Skills to design and create visually appealing dashboards in Tableau, integrating various visual elements for enhanced comprehension.				
	PC8: Expertise in employing Tableau's tools to visualize complex data sets creatively, ensuring clarity and relevance in the storytelling process.				
	PC9: To communicate insights effectively through dashboards, understanding the art of translating data into actionable information for stakeholders.				
3	**Module 3:** Advanced Visualization Techniques	5	5		
	PC10: Expertise in handling diverse datasets within Tableau, including data connections, blending, and manipulation for analysis purposes.				
	PC11: Advanced analytical skills using Tableau, mastering various techniques such as calculations, grouping, and trend analysis for robust data exploration.				
	PC12: Ability to interpret and derive meaningful insights from data visualizations generated in Tableau, identifying patterns, trends, and outliers effectively.				

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	PC13: Knowledge to use Tableau's analytical capabilities to support decision-making processes, transforming data insights into actionable strategies for business improvement.				
4	**Module 4**: Advanced Application of Tableau and Case studies.	10	5	10	
	PC14: Proficiency in using Tableau's advanced features such as calculated fields, parameters, and sets to manipulate and analyze data at a sophisticated level.				
	PC15: Skills to optimize Tableau's performance by understanding data blending, extracts, and efficient workbook design for enhanced speed and functionality.				
	PC16: Knowledge to explore and implement predictive analytics within Tableau, integrating statistical models and forecasts to derive predictive insights from data visualization.				
Total		25	15	10	
Total Marks		**50**			

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Annexure 3: Assessment Strategy

1.**Assessment System Overview**

- Assessment division shall be responsible for conducting the online assessment after the 30 Hours program.
- Question bank shall be prepared in advance by the division.
- Assessments shall be conducted at ASAP Community skill parks/Accredited training centres/Colleges/AI proctored assessment platform.

2. **Testing Environment**

- Assessments shall be conducted at ASAP community skill parks/Accredited training centres/Colleges/AI proctored assessment platform.

3. **Assessment Quality assurance levels/framework**

- Questions papers are created by subject matter experts considering the levels and assessment criteria.
- Continuous Technical backup would be provided while assessment is going on for students facing technical issues or troubleshoots.

4. **Types of Evidence or evidence gathering protocol**

- ID Card details of students
- Certificate of assessor

5. **Method of Verification or validation**

- ID Card details of students, face verification through the online platform.
- Answer papers and attendance sheets shall be collected by the manager of the centre and shall be handed over to the assessment division.
- AI Proctored platform shall be used in case of online assessments. Final report with attendance data, answer sheets , AI detected videos/images shall be shared by the technical team to the assessment team.

6. **Method for assessment documentation, archiving and access**

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- Answer papers and attendance sheets shall be collected by the manager of the centre and shall be handed over to the assessment division.
- AI Proctored platform shall be used in case of online assessments.Final report with attendance data, answer sheets , AI detected videos/images shall be shared by the technical team to the assessment team.

Assessment for this MC shall be focused on the overall theoretical and practical knowledge acquired by the learner. Since this is a foundational program that is aimed at introducing the possibilities of this technology to the learner, the assessment shall also focus on the interest generated among the learner towards the sector. ASAP follows an assessment framework that provides weightage for all the activities connected with skilling in which students get involved during the training program. The components of assessment include Attendance, Assignments, Internal Assessments, and Final Assessment. Of these, Attendance and Internal Assignment come under Continuous and Comprehensive Evaluation (CCE). All Assessments concerning the academic status of the student should be reflected as marks and overall assessment by awarding grades. The report card/certificate will state only the overall grade.

Weightages: assessment shall be done with 60% weightage for practical components and 40% weightage for the theoretical part. The outcome-based assessment followed by the Assessment Division for the course offered will have the following design:

Type of Assessment	Max Marks
Internal Assignment during 50% completion of the course.	20
Final project and viva	20
Attendance	10
Final exam	50
Total	100

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Attendance criteria: For each course and batch, the student's attendance will be marked daily, and marks will be awarded accordingly on course completion before the final assessment. Students whose attendance falls below 70% will not be eligible for the final assessment and course completion certificate.

Attendance	Marks
Above 90%	10
86 to 90%	8
80 to 85%	5
70 to 80%	3
Below 70%	0

Assignments: Students can complete assignments according to his/her preferred approach. This might involve reading technical study materials, chapters and assigned reading materials to gain a better understanding prior to completing an assignment or exploring new resources to gain additional information. There shall be no restriction on the resources that the students are allowed to consult or any limit to the number of hours he/she choose to spend on the assignment. Since each student employs his/her own personal learning style, an individual assignment may actually be a fairer measure of the student's learning. assignments shall be evaluated and assigned a score. The scores shall be marked on the student's assignment sheets by the Trainer after evaluation.

Final Assessment: The Assessment Division with the support of the Curriculum Division and Cluster will prepare the Question Bank. The Question Bank is prepared at the time of initial course creation by Subject Matter Experts identified by the Curriculum division in consultation with the respective Cluster. Randomly selected questions from the Question bank developed will be used for Final Assessments. 20% of questions will be replaced with new ones every year and a blueprint that elaborates weightage to QP/NOS, degree of difficulty and application-type questions will be used for the assessment.

The Question Bank will be used to prepare the question paper for the final assessment. The assessment division shall conduct the assessment through the assessors. The assessment shall be monitored by the assessors on the assessment platform. The final answer sheets shall be evaluated by experts in the field and the final scores with grades shall be shared by the assessment division to the certification division for final certificate issue.

Grading Scheme: ASAP Kerala shall be following the below-mentioned grading scheme

Percentage range	Grade Score
90-100	A+ (Excellent)
80-89.9	A (Very Good)
70-79.9	B (Good)
60-69.9	C (Above Average)
50-59.9	P (Pass)

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Annexure 4: Tools and Equipment

List of Tools and Equipment

    Batch Size:

Sl. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Tableau Software package	Tableau for students/Pro License	As per requirement

Classroom Aids:

The aids required to conduct sessions in the classroom are:

1. Webex Platform
2. LMS Platform
3. Tableau Software package

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Annexure 6: Training Details

Training Projections:

Year	Estimated Training # of Total Candidates	Estimated training # of Women	Estimated training # of People with Disability
2023-24	1000	500	100
2024-25	1000	500	100
2025-26	1000	500	100

Data to be provided year-wise for next 3 years.

Annexure 7: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools: Not applicable

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline: Online Ratio
1	☐ Theory/ Lectures - Imparting theoretical and conceptual knowledge	Not applicable	Not applicable
2	☐ Imparting Soft Skills, Life Skills and Employability Skills /Mentorship to Learners	Not applicable	Not applicable
3	☐ Showing Practical Demonstrations to the learners	Not applicable	Not applicable
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	Not applicable	Not applicable
5	☐ Tutorials/ Assignments/ Drill/ Practice	Not applicable	Not applicable
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Not applicable	Not applicable
7	☐ On the Job Training (OJT)/ Project Work Internship	Not applicable	Not applicable

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Annexure 8: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities based on their main economic function, product, service or technology.

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