

VERSION: 1.2
NOVEMBER 22, 2017



CERTIFICATION HANDBOOK

CERTIFIED PETROLEUM DATA ANALYST (CPDA)™

PROFESSIONAL PETROLEUM DATA MANAGEMENT ASSOCIATION
#860, 736 8 AVENUE SW
CALGARY, ALBERTA, CANADA

TABLE OF CONTENTS

CERTIFICATION OVERVIEW.....	3
HOW TO USE THIS HANDBOOK.....	3
CERTIFICATION BACKGROUND AND DESCRIPTION	3
WHAT CERTIFICATION MEANS TO CANDIDATES.....	4
WHAT CERTIFICATION MEANS TO THE PUBLIC AND TO INDUSTRY	4
CPDA CERTIFICATION AND PPDM MEMBERSHIP	4
EXAMINATIONS	5
EXAM CONTENT AND STRUCTURE.....	5
QUESTION DEVELOPMENT.....	5
EXAM TIMING	5
CPDA ELIGIBILITY REQUIREMENTS.....	6
APPLICATION	7
THE APPLICATION PROCESS	7
REFERENCES.....	7
EXAMINATION APPLICATION PROCESSING	8
EXAMINATION FEES.....	8
APPLICATION WITHDRAWAL AND REFUNDS.....	8
FAILURE TO APPEAR FOR THE EXAM.....	9
ACCESSIBILITY AND SPECIAL ACCOMMODATIONS.....	9
TAKING THE EXAM	10
CONFIRMATION & PREPARATION	10
MINIMUM SYSTEM REQUIREMENTS	10
EXAMINATION RESULTS	11
ONLINE CREDENTIAL REGISTRY.....	11
RESOURCES AND RECOMMENDED READING	13
PROCEDURES.....	14
ETHICAL INTEGRITY – DISCIPLINARY ACTIONS.....	14
APPEALS	14
APPENDIX B: COMPETENCY DEFINITIONS, INDICATORS, AND RESOURCES.....	17
DATA GOVERNANCE	17
DATA ANALYSIS	18
DATA QUALITY MANAGEMENT	20
DATA SECURITY.....	21
SPATIAL DATA.....	22
EXPLORATION AND PRODUCTION (E&P) LIFE-CYCLE PROCESSES	23

MASTER DATA MANAGEMENT	24
COMMUNICATION	25
EXAM BLUEPRINT	26
APPENDIX C: POLICIES.....	27
ETHICAL INTEGRITY POLICY.....	27
PPDM PRIVACY POLICY.....	29
APPENDIX D: CONTACT INFORMATION – PPDM HEADQUARTERS	30

CERTIFICATION OVERVIEW

HOW TO USE THIS HANDBOOK

The purpose of this handbook is to provide applicants with important information about the eligibility requirements, policies, and procedures for obtaining and maintaining the Certified Petroleum Data Analyst (CPDA) credential. All applicants are expected to read this handbook.

For general information about the certification, and to access the
CPDA Application Form visit:

<http://www.ppdm.org/certification>

PPDM Certification Customer Support email:

certification@ppdm.org

CERTIFICATION BACKGROUND AND DESCRIPTION

In order to meet the petroleum industry's need for recognition of competence of data management professionals, the Professional Petroleum Data Management (PPDM) Association has established the Certified Petroleum Data Analyst (CPDA) certification examination. This is the first in a series of petroleum data management professional certification examinations that the PPDM Association will offer.

The Certified Petroleum Data Analyst (CPDA) credential is awarded to individuals who meet specific criteria related to education, work experience, and who successfully complete the PPDM test-based examination of professional level knowledge. The certification examination will establish a standard of excellence in data management for data analysts who have three (3) to five (5) years of work experience, preferably in the petroleum industry.

A CPDA certification will validate to employers, clients, and colleagues that a CPDA credentialed professional possesses data management knowledge, experience, and skills to bring success in petroleum data management.

The certification program has been incorporated as an independent unit into the PPDM Association to ensure its autonomy. Governance and decision-making are the responsibility of the Petroleum Data Management Committee (PDMCC), (APPENDIX A).

The PDMCC, established in 2011, is comprised of subject matter experts from around the globe, and mandated to verify that data analyst applicants meet the minimum standard of competence in data management (based on an evaluation of professional competence), and to administer, evaluate, and maintain a professional credentialed program to promote and support petroleum data management practitioners and their professions.

WHAT CERTIFICATION MEANS TO CANDIDATES

Achieving PPDM certification as a CPDA means that the PDMCC has evaluated the candidates knowledge of essential areas in petroleum data analysis and granted that person the title of CPDA as an assurance of capability as measured by the developed competency profile (Appendix B: Competency Definitions, Indicators, and Resources).

Successfully completing the PPDM Association's certification process grants certificants the right to use the title Certified Petroleum Data Analyst in their professional signature and the initials CPDA or C.P.D.A. after their name (e.g. John Smith, CPDA).

WHAT CERTIFICATION MEANS TO THE PUBLIC AND TO INDUSTRY

In today's complex Exploration & Production (E&P) environment, poor quality in data analysis and management can result in major environmental and human impacts with serious, even fatal consequences. Certification as a Petroleum Data Analyst provides independent verification of an established level of expertise in the petroleum data management domain. Furthermore, the professionalization of petroleum data management will ensure that best practices are shared and upheld within our industry, reducing risk and supporting better decision-making. An outcome of this certification is the professionalization of petroleum data management.

CPDA CERTIFICATION AND PPDM MEMBERSHIP

PPDM Association membership is not a mandatory requirement for certification by the PPDM Association, but does offer benefits including cost reductions for exam administration, annual renewal fees, educational training sessions and data management events organized by the PPDM Association.

EXAMINATIONS

EXAM CONTENT AND STRUCTURE

The CPDA Examination consists of two-hundred (200) multiple choice questions that assess knowledge, application, and critical thinking related to the management of exploration & production data types including well, seismic, and spatial data. Examination questions cover eight competency areas:

1. Data governance
2. Data analysis
3. Data quality management
4. Data security
5. Knowledge of spatial location data
6. Knowledge of E&P
7. Communication
8. Master data management

Each competency contains a set of behavioral indicators that are observable and measurable. These behavioral indicators will be referenced in the examination questions (see Appendix A: Competency Definitions, Indicators, and Resources for more detailed information).

Some questions will be case-based, or refer to images that candidates should be familiar with from their day-to-day work in petroleum data analysis.

Number of Scored Questions	Number of Experimental (Unscored) Questions	Total Examination Questions	Allotted Exam Time	Average Time per Question
180	20	200	4 hours	72 secs

QUESTION DEVELOPMENT

CPDA examination questions:

- have been developed and independently validated by petroleum industry data analyst Subject Matter Experts (SME)
- are designed to assess important information for petroleum data analysis while avoiding variations by organizations, geographical location or application
- are referenced to current three (3) to five (5) year experienced data analyst job competencies
- developed under the guidance of highly qualified psychometricians, and assessed through a complete psychometric analysis

Computer-based testing (CBT) is the standard method of administration of the CPDA Examination – therefore the examination will be completed online, in a virtually proctored environment.

EXAM TIMING

Candidates will have a maximum of four (4) hours to complete the examination.

There are no scheduled breaks during the active examination. After the candidate completes and submits the first one hundred (100) questions in the exam (half-way point), the candidate is permitted to take a maximum fifteen (15) minute break. Upon the scheduled resume time (following the fifteen minute break), the timer will begin. If a candidate exceeds the 15 minute break time, they will lose that

time on the second half of their exam. After the candidate returns to the exam after the half-way point break, the candidate will not be able to revisit the questions submitted in the first half of this exam. The candidate is permitted up to a maximum of fifteen (15) minutes of break time without impact to the allotted four (4) hours for the examination. If the candidate exceeds the fifteen (15) minute allotted time, the timer will start for the second half of the exam. If the candidate has not returned to the exam an additional fifteen (15) minutes after the start time of the second half of your exam, the proctor will close the exam session and note the incident report for the Registrar. The candidate will be required to contact the Registrar to rebook the examination, in which case, charges may apply.

At the start of the examination the candidate will be given the option to take a brief tutorial, to ensure comfort with the exam format and to ensure that there are no connectivity issues. After completing the exam the candidate will also be given the option to complete a PPDM Association survey about the exam experience. Both are optional and will take approximately five (5) minutes each to complete. Time taken to complete the tutorial and survey are not included in the examination allotted four (4) hours.

CPDA ELIGIBILITY REQUIREMENTS

In order to successfully complete the examination and maintain the CPDA designation, candidates must have a minimum of three (3) years combined education and relevant work experience.

To reach the required sum of education and experience, candidates must demonstrate their training, education, and work experience (either paid or volunteer), directly or indirectly related to the petroleum and/or data analyst profession in their application. Data Analysts may come from a variety of backgrounds (e.g. technical, analytical, numerical, or scientific background).

This requirement was developed recognizing that working as a petroleum data analyst offers experience that cannot be gained through coursework and study alone. The examination has been constructed upon the competencies expected of a petroleum data analyst with three (3) to five (5) years of work experience ([Appendix B: Competency Definitions, Indicators and Resources](#)).

APPLICATION

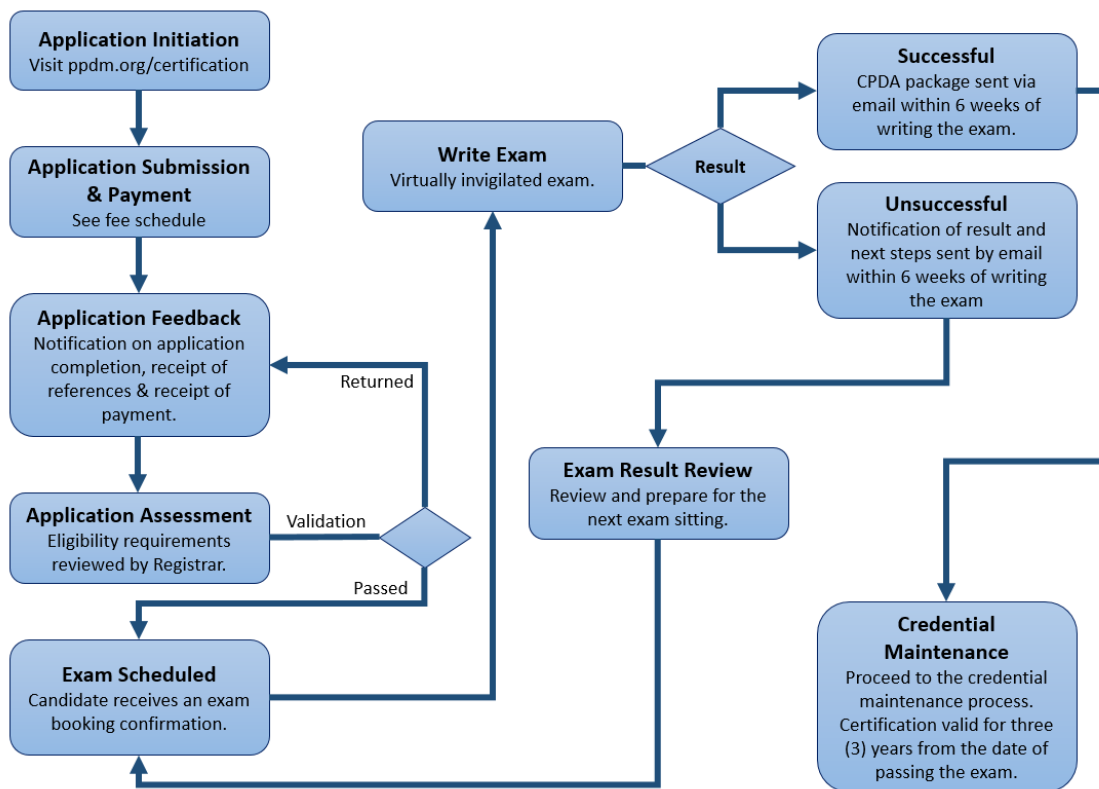
THE APPLICATION PROCESS

Once candidates have reviewed the competency profile, exam blueprint and recommended resources (Appendix B) and consider themselves eligible to register for the examination, candidates should visit <http://ppdm.org/certification> and click on the 'Register Now' to access the application form.

To equal the three (3) to five (5) years combined education and experience required, candidates must demonstrate their related work within the petroleum and/or data analysis profession. For each of these entries in the application, candidates will be required to elect a reference who can validate their experience (see [References](#)).

Upon receipt of a completed application, reference responses and payment in good order, the registrar will notify candidates that their application is in good standing.

Application Process:



REFERENCES

Candidates are required to submit a minimum of two (2) to a maximum five (5) professional references, who can verify their work experience as it relates to petroleum data analysis. Upon the submission of the application, candidate references will receive an email from the PPDM Association, which will require a response to validate the application. We recommend that candidates contact their references in preparation for this application, to confirm their contact information, and to inform them that they will be contacted by the PPDM Association regarding this application.

The PPDM Association requires applications to be fully complete (including response from references), prior to the application deadline for each examination date.

EXAMINATION APPLICATION PROCESSING

All examination applications must be submitted with required documentation and fees in order to be considered complete.

The PPDM Association requires a minimum of thirty (30) days to process applications. If candidates have not received notification from the PPDM Association of receipt of the completed application, payment and references thirty (30) days after submitting their application, please contact our office: phone +1.403.660.7817 or email certification@ppdm.org.

The Registrar will complete a full review of all candidate information and if necessary, redirect the candidate to the appropriate step to complete any missing or unclear information.

After the application deadline has passed, and all information has been received and verified, candidates will be contacted by Yardstick Testing and Training Experts, the PPDM Association contracted exam administration partner, who will confirm the candidate's examination time and instruct the candidates on how to access their online examination at the scheduled time.

EXAMINATION FEES

Candidates are required to pay CPDA Examination fees (invigilation) and the PPDM Member or Non-member administration fee. These fees have been separated to accommodate any candidate who may be required to re-sit the CPDA Examination.

After the candidate has successfully passed the CPDA Examination they will move to an annual renewal fee schedule (payment of the annual renewal fee is required to remain in good standing). All fees outside of Canada are in USD.

Certification Fee Schedule	PPDM Member	Non-Member
Administration fees	\$150.00	\$250.00
CPDA Exam fees (Invigilation)	\$250.00	\$250.00
Annual renewal fees	\$75.00	\$150.00
Plus applicable taxes		

APPLICATION WITHDRAWAL AND REFUNDS

If a candidate withdraws their application less than three (3) weeks prior to the scheduled examination, this will result in forfeiture of CPDA Examination fees (invigilation), however they may carry the administrative fees forward to a future examination date, if rescheduled and taken within one (1) year. The candidate will be required to pay CPDA Examination fees for any subsequently scheduled exam sitting.

Should a candidate not meet the eligibility requirements and wish to submit further evidence to be eligible for future examinations, the candidate has one (1) year to complete this process. After one (1) year, the candidate will be required to pay the full Administration fee.

If a candidate withdraws their application and does not intend to write the examination the same year, the candidate must notify the PPDM Association within seven (7) business days of submitting their application to receive a seventy-five per cent (75%) refund of Administration fees. Beyond seven (7) business days the Administration fee is not refundable.

FAILURE TO APPEAR FOR THE EXAM

The PPDM Association will not provide candidates with a refund of CPDA Examination fees if they scheduled an examination and did not take it, and did not provide the necessary cancellation/rescheduling notification to the PPDM Association. Candidates will have the option to rebook for the next available session for the cost of the CPDA Examination fee (invigilation).

ACCESSIBILITY AND SPECIAL ACCOMMODATIONS

If candidates have any questions about accessibility or require special accommodation to write the exam, please contact us by telephone +1.403.660.7817 or email certification@ppdm.org.

TAKING THE EXAM

CONFIRMATION & PREPARATION

When the candidate's application is complete, including receipt and review of references, candidates will receive: a booking confirmation email from our examination administration partner confirming the date and time of their scheduled exam, instructions on how to access the exam session, and how to test their computer to ensure that it meets the requirements of the virtual invigilation provider. This email will be sent following the application deadline for the candidates chosen exam sitting.

At the time of the examination, candidates will log into the system and must have one piece of government issued photo ID ready to show the live virtual proctor. Candidates should ensure they are in a quiet, private location with no additional aides (textbooks, tablets, cell phone, etc.) for the duration of the examination. The virtual proctor will observe the candidate in real time via webcam, and communicate with the candidate via chat log. Candidates will be requested to pan the room 360 degrees with their webcam before beginning the exam, and after any breaks. See below for further details on [system requirements](#). Any anomalies observed by the proctor once the test has started will be reported to the PPDM Association. The recording of the proctored examination session will be securely stored by the PPDM Association for six (6) months, or longer, in cases where an investigation or appeal is underway.

MINIMUM SYSTEM REQUIREMENTS

HARDWARE:

- PC operating system: Windows XP, Vista 7, 8, 10
- Macintosh operating system: Mac OS X or higher
- Other operating systems: Linux or Chrome OS
- Hardware Requirements: Minimum 1GB RAM & 2Ghz dual core processor
- Minimum Screen Resolution: 1280 x 800

High-speed Internet connection with a minimum of 500kb/s download and 256kb/s upload speeds, (5 Mbps or higher, for download and upload speeds are recommended). Loss of internet connectivity at the candidate's site will require that an alternate examination be scheduled. Additional fees may be applicable.

SOFTWARE/BROWSER:

- Installation of the current version of Google Chrome or Chromium
- Candidate's browser must accept 3rd party cookies for the duration of the examination ONLY
- Installation of the Innovative Exams Google Chrome Extension

CAMERA:

- A webcam with 640x480 video pixel resolution

OTHER PERIPHERALS:

- A microphone connected to the computer
- TCP ports 80 and 443

Test the minimum system requirements against your own environment by using the following link:
<https://www.examslocal.com/ScheduleExam/Home/CompatibilityCheck>.

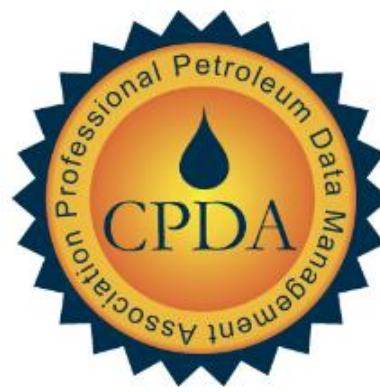
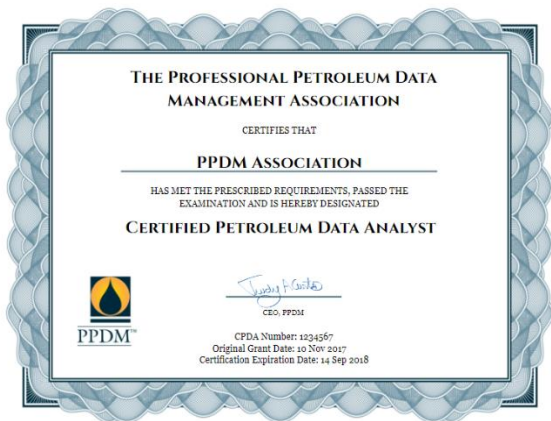
EXAMINATION RESULTS

Examination results will be delivered to candidates by email four (4) to six (6) weeks after successful completion of the examination.

Raw scores will not be released to candidates. Candidates will be notified whether they have successfully (Pass) or unsuccessfully (Fail) completed the examination.

SUCCESSFUL CANDIDATES

If a candidate is successful, they will receive their digital credential (official certificate and badge), along with further information from the PPDM Association related to maintaining the CPDA designation. Please refer to the following section (Certification Maintenance) for more information on maintaining the designation through accumulating Professional Development Hours (PDHs).



Any candidate scoring eighty percent (80%) or higher will be recognized as having passed the examination “with Distinction”, which will appear on the candidate’s certificate.

Once a successful candidate (CPDA or CPDA with Distinction) accesses their digital credential they will have the ability to add their credential to social media; show their credential on their email signature; embed their credential on a web page, and add their credential to their Mozilla digital backpack. Successful candidates also have the ability to download a PDF of their certificate, and a PNG of their badge.

UNSUCCESSFUL CANDIDATES

Should a candidate be unsuccessful in passing the examination, the PPDM Association will recommend to the candidate [within four (4) to six (6) weeks of sitting the examination], competency areas where the candidate can focus upon for future examination attempts. Candidates are permitted to sit the next scheduled examination session, space permitting. See the [Examination Fees](#) section for information about costs for repeated exam attempts.

ONLINE CREDENTIAL REGISTRY

Once an individual has successfully passed the CPDA exam, in addition to receiving an official certificate, their name will be listed in the online credential registry.

Credentialed professionals will be listed by name, and the credential registry may be searched by name. Should a CPDA wish to have their name omitted from the registry they should notify the registrar at certification@ppdm.org.

CERTIFICATION MAINTENANCE

The CPDA credential requires ongoing professional development to maintain an active certification status. You will need to follow the Credential Maintenance program and earn professional development units (PDUs.) The goal is to ensure that your certified competencies stay relevant and up-to-date.

The Credential Maintenance aspect of your certification supports the ongoing educational and professional development so you are prepared to meet the demands of today's complex and evolving business environment. The purpose of this program is to:

- Enhance continuous learning and development among certification holders,
- Provide direction in development areas to ensure relevancy of certified practitioners,
- Encourage and recognize individual learning opportunities,
- Sustain the global recognition and value of the CPDA credential.

All CPDAs are required to complete a minimum of ninety (90) hours of professional development units (PDUs) per certification term in order to renew their certification. Each term is constructed of three (3) cycles (years). It is expected that all CPDAs will achieve a minimum of 15 of the PDUs in each of the cycles in order to stay relevant in every year. There are no constraints on the maximum PDU's that may be submitted; however, the minimums must be met per certification term.

PDUs will be accepted for the certification renewal requirement as long they are directly related to the CPDA Competencies and meet the guidelines. All CPDA certification holders must earn PDUs to actively maintain their CPDA certification.

These PDUs can be earned through various professional development activities that center on one of two areas:

1. Education – Learning opportunities that allow you to expand and enhance your technical, leadership, or strategic and business management skills.
A minimum of sixty (60) PDUs required per certification term.
2. Giving back to the Profession – Activities that enable you to share and utilize your knowledge and skills to contribute to and help build the profession.
A minimum of thirty (30) PDUs required per certification term.

Please refer to the **Credential Maintenance Handbook** for a complete discussion of the requirements for you to fulfill the credential maintenance requirements.

RESOURCES AND RECOMMENDED READING

See Appendix B for resource listings by competency.

PROCEDURES

All candidates must read and agree to the terms of all of PPDM's policies, including but not limited to the Privacy Policy and the Ethical Integrity Policy ([Appendix C](#)), and all other policies published by the PPDM Association.

ETHICAL INTEGRITY – DISCIPLINARY ACTIONS

The Ethical Integrity Policy demonstrates professional commitment to upholding the highest ethical standards related to work as a professional CPDA and is designed to prevent test questions from being shared publicly or future test takers. Anyone who cheats, commits fraud, or violates the Ethical Integrity Policy may be banned from PPDM certification programs, and may also be stripped of any previously granted PPDM certifications. For more details, see the Ethical Integrity Policy in [Appendix C](#) of this handbook.

Any complaints against a PPDM Certified Petroleum Data Analyst (CPDA) on the grounds of professional negligence calling into question the verification of the established level of expertise resultant from achieving the certification, actions which call into question a failure to maintain ethical and/or professional standards, may be raised to the Professional Data Management Certification Governance Committee for review. Upon review, if any allegations prove to be correct, the committee will determine a corrective course of action ranging from a recommended upgrading of skills and/or knowledge up to and including a revocation of the individual's certification. Any issues raised towards an individual certificant will be limited to that certificant alone and not against the CPDA certification process as a whole, which will continue to function as an independent verification of skills and knowledge in the field of Petroleum Data Analysis.

APPEALS

The following information describes how candidates may appeal an exam result or exam content:

1. The applicant must advise the Office of the Registrar of intent to appeal within 30 days of receiving his/her exam result. This notification may come in the form of regular mail or electronic mail ([Appendix D: Contact Information](#)).
2. The appeal is forwarded to the Certification Committee within one business week of PPDM's receipt of the appeal, and a decision will be made at the Certification Committee's next scheduled meeting (current schedule – monthly meetings, or as required).
3. For clarification of information, the Certification Committee may contact the appropriate sources by phone or in writing. These may include, but are not limited to: the applicant, academic institutions, and current and past employers referenced on the application and sponsors. The applicant will be notified of contact made with sources, and be provided with copies of the documentation received from third party sources.
4. At the discretion of the Certification Committee, an applicant may attend a Committee Hearing (in person or virtual meeting), to discuss their appeal. An applicant, whose request for the opportunity to take part in the appeal hearing has been approved, is responsible for their cost to attend the hearing.

For more information on the appeal process contact the Office of the Registrar at +1.403.660.7817 or certification@ppdm.org.

APPENDIX A: RESPONSIBILITIES

PETROLEUM DATA MANAGEMENT CERTIFICATION COMMITTEE (PDMCC)

The PDMCC was established in 2011, comprised of subject matter experts from industry, brought together with the mission to support and maintain the needs of the upstream petroleum data management profession by providing certification of professional skills within the discipline, and to uphold certification as a standard of excellence in petroleum data management.

CPDA Certification is governed by the PDMCC with oversight from the PPDM Association Board of Directors, and is independent from training activities conducted by the PPDM Association.

Registrar

The role of the Registrar is to enable effective and efficient decision-making by the committees. The Registrar is a gatekeeper, router, and executor of decisions made by regulatory committees and sub-committees (Professional Regulation and Standards Committee, Certification Sub-Committee, Recertification Sub-Committee, Educational Standards Sub-Committee, Complaints, Investigations, & Discipline Committee, and Appeals Committee). In order that the regulatory committees and sub-committees are not burdened with the making of routine decisions, the Registrar is empowered to make certain decisions within established parameters and bounds.

To this end, the PDMCC has assigned the following functions to the Registrar:

1. Managing regulatory processes
2. Providing support to regulatory committees and sub-committees
3. Managing administrative processes that support regulatory activities
4. Providing regulatory policy support to the PDMCC and regulatory committees and sub-committees

The Registrar is a member ex-officio of all regulatory committees and sub-committees. Nonetheless, the Registrar does not participate in committee or sub-committee deliberations, which involve decisions about individual cases. The Registrar is a full participant in the policy development process with respect to regulatory matters and has the opportunity to review and provide meaningful input to all regulatory policy development discussions. The Registrar may bring forward policy proposals for consideration by the various regulatory committees and sub-committees.

Item Writers

Under the structured guidance of professional psychometric services, the PPDM Association conducted a process of exam item bank development by securing participation of international subject matter experts. The development of the exam item bank was initiated with several item development workshops, and subsequent monthly reviews with a psychometrician. Each author was allocated eighteen (18) months to build an item bank of questions, which were then globally pilot-tested for standardization. The item bank continues to be replenished in order to maintain current competency consideration.

Professional Petroleum Data Management (PPDM) Association

The PPDM Association is committed to serving the public interest by ensuring that Petroleum professionals registered with the PPDM Association are competent and act in an ethical manner. ([Appendix C: Ethical Integrity Policy](#)).

Yardstick/ Measure

The PPDM Association contracted the consulting services of Yardstick Software Inc. for its specific expertise related to psychometrics and certification exam development. Measure is a Yardstick product, and is the platform for exam administration.

Innovative Exams

Innovative Exams provides a platform for candidates to take exams online in a virtually invigilated environment. Candidates can work from any computer that is equipped with a camera, stable internet connection, Google Chrome, and a reliable power source. Innovative Exams provides a proctor to guide the candidate through the exam experience and to assist with any issues that may arise.

Accredible

Accredible is the industry-leading digital credentialing platform that enables organizations to securely issue, manage, track, and verify digital certificates and badges.

Accredible's mission is to allow anyone to showcase any skill, knowledge or experience in the way that suits them best and use this to gain economic opportunities, regardless of how or where or when they gained their skills and knowledge.

APPENDIX B: COMPETENCY DEFINITIONS, INDICATORS, AND RESOURCES

Competency Name:
DATA GOVERNANCE
Competency Definition:
Explain how an organization manages its data assets, including business rules, policies, practices, procedures, roles, and responsibilities. ¹
Competency Indicators:
Describe data governance in an organization (e.g., industry standards for data loading). Describe the rationale for data governance within an organization and its relationships with external stakeholders, such as regulatory bodies and partners. Describe the impact of data governance on the daily activities of a data analyst. Comply with internal data governance policies (where they exist). Use common organizational terms and definitions. Explain the reasons for maintaining data over time. Describe the data lifecycle (e.g., acquire, load, use, refine, archive, and delete data). Promote the value of data governance and the need to comply with it.
Resources:
Data Governance Institute. (n.d.). <i>The DGI data governance framework</i> . Retrieved from http://www.datagovernance.com/the-dgi-framework/
Mosley, M., Brackett, M., & Earley, S. (Eds.). (2009). <i>The DAMA guide to the data management body of knowledge (DAMA-DMBOK guide)</i> . Bradley Beach, NJ: Technics Publications.

¹ Data governance is developed at an organizational level, and a data analyst is expected to follow the organizational policies and processes rather than define them.

Competency Name:
DATA ANALYSIS
Competency Definition:
Analyze data and oversee the maintenance of data stores and data-related solutions.
Competency Indicators:
<p>Identify appropriate sources of raw data:</p> <ul style="list-style-type: none"> • National and regulatory data repositories • Internal managed and unmanaged data stores • Data vendors • Service companies • Joint venture partners • Other <p>Investigate new sources of data from vendors and regulators. Describe physical and digital data. Describe data domains (e.g., well, seismic, production, land), including units of measure. Explain how data from different domains is used by an organization. Describe major elements of the data retention policy and schedule as applied to data. Describe the mapping of data across data stores, including:</p> <ul style="list-style-type: none"> • Data rules • Translation of data • Transformation of data • Basic data workflow <p>Examine and describe the data workflow for all types of data (e.g., structured, unstructured, and semi-structured). Cross-correlate data between different domains and data stores to ensure accuracy, consistency, and coherence.</p> <ul style="list-style-type: none"> • Create necessary reports to identify missing data, duplicates, anomalies, and availability. • Build queries and filters to find physical and digital data items. • Provide the correct coordinate reference system (CRS) when loading data with location information. • Validate geospatial data precision. • Describe processes for data loading. • Ensure that loaded data adheres to the approved standards. • Solve basic workflow problems with close supervision. • Take ownership for metadata (e.g., data about data) management. • Ensure that the metadata is loaded to document data context, quality, and provenance. • Use receipt-tracking systems to ensure consistency. • Provide status information about requests to management and clients. <p>Document data movement procedures between data stores. Adhere to internal naming standards. Explain archiving in the data management process. Follow retention standards for data. Ensure that the history of data transformations is captured as it goes through the data lifecycle. Explain backup and recovery procedures in an organization.</p>
Resources:
Mosley, M., Brackett, M., & Earley, S. (Eds.). (2009). <i>The DAMA guide to the data management body of knowledge (DAMA-DMBOK Guide)</i> . Bradley Beach, NJ: Technics Publications.

Pascual, M. S. (2011). *Standard GIS data: A look at accuracy, precision, and types of errors*. Retrieved from <https://www.gislounge.com/gis-data-a-look-at-accuracy-precision-and-types-of-errors/>

Srivastava, R. N. (2008). *Spatial data quality: An introduction*. Retrieved from <https://www.gislounge.com/spatial-data-quality-an-introduction/>

Competency Name:
DATA QUALITY MANAGEMENT
Competency Definition:
Apply quality management methods to assess, improve, and ensure the fitness of data for business use in accordance with industry and organizational business rules.
Competency Indicators:
<p>Describe criteria for data quality:</p> <ul style="list-style-type: none"> • Completeness • Consistency • Coherence • Accuracy • Timeliness • Relevance <p>Recognize the source of data and data state (e.g., raw, processed, and edited data). Examine the quality of data to determine its fitness for a specific purpose. Confirm the quality requirements for data with a business owner or a vendor. Describe mandatory elements for data quality control (e.g., for wells, well header: name, location, spud date, and organization). Verify that the data is uploaded in the right format. Apply standard industry business rules to data: <ul style="list-style-type: none"> • Align a well header with the legal description (e.g., UWI) • Check the integrity of dates and depths Apply organizational business rules to data. Identify and resolve duplicate data for confirmation with a business owner: (e.g. well header, seismic survey, and well log). Identify data reliability: <ul style="list-style-type: none"> • Identify data sources • Describe the preferred source list using the trustworthiness of the source as a criterion (e.g., internal reports, national data repository, and a vendor) • Review the reliability grade to data • Publish the information on the reliability of the data source in the format that is useful to users Report data quality metrics to raise awareness of data quality status and potential issues. Notify business owners of data about data quality issues.</p>
Resources:
Mosley, M., Brackett, M., & Earley, S. (Eds.). (2009). <i>The DAMA guide to the data management body of knowledge (DAMA-DMBOK Guide)</i> . Bradley Beach, NJ: Technics Publications.

Competency Name:
DATA SECURITY
Competency Definition:
Explain and comply with organizational policies and processes for data security management. ²
Competency Indicators:
<p>Comply with internal data security management policies.</p> <p>Comply with necessary regulatory security policies (e.g., Sarbanes-Oxley, embargoed countries).</p> <p>Explain different security categories by domain and role of systems of record (e.g., confidential, public, tight holes, and edit vs. view).</p> <p>Explain the security policies used for master data stores.</p> <p>Explain the security policies used for document management.</p> <p>Ensure that data security rules are applied to data rooms, applications, and data stores.</p> <p>Comply with rules for access to and release of data to stakeholders.</p>
Resources:
<p>Mosley, M., Brackett, M., & Earley, S. (Eds.). (2009). <i>The DAMA guide to the data management body of knowledge (DAMA-DMBOK Guide)</i>. Bradley Beach, NJ: Technics Publications.</p>

² Data security management is set at an organizational level, and a data analyst is expected to follow the organizational policies and processes rather than define them.

Competency Name:
SPATIAL DATA
Competency Definition:
Use knowledge of coordinate reference systems and mapping technologies to accurately represent the position of assets.
Competency Indicators:
<p>Explain the importance of coordinate reference data and its accuracy to an organization.</p> <p>Explain how to transform coordinates from one coordinate system to another.</p> <p>Explain the difference between geographic and projected coordinate systems.</p> <p>List commonly used formats for latitude, longitude, and UTM.</p> <p>List domains where coordinate reference data is used.</p> <p>Explain the relationship between the Geographic Information Systems (GIS) and attribute data.</p> <p>Describe the required metadata to be captured for coordinates.</p> <p>Perform quality control on coordinate data, including:</p> <ul style="list-style-type: none"> • Expected coordinate ranges • Magnitude of variability • Consistency with other sources <p>Verify the location within acceptable tolerances using GIS.</p> <p>Identify ways to deal with common issues when handling coordinate data (e.g., mixed coordinate datum, different versions of local grids, mixed survey acquisition methods).</p> <p>Use appropriate mapping technology to retrieve datasets based on location information.</p> <p>Use mapping applications appropriately.</p> <p>Verify the accuracy of coordinates.</p>
Resources:
<p>ArcGIS Resource Centre. (2013). <i>Map projections guidebook</i>. Retrieved from http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html#/What_are_map_projections/003r000000100000/</p> <p>OGP Geomatics Committee. (2012). <i>OGP P1/11 Geophysical position data exchange format (Report No. 483-1)</i>. Retrieved from http://www.iogp.org/our-library</p> <p>OGP Geomatics Committee. (2012). <i>OGP P2/11 Positioning data exchange format (Report No. 483-2)</i>. Retrieved from http://www.iogp.org/our-library</p> <p>OGP Geomatics Committee. (2012). <i>OGP P6/11 Seismic bin grid data exchange format (Report No. 483-6)</i>. Retrieved from http://www.iogp.org/geomatics</p> <p>OGP Geomatics Committee. (n.d.). <i>P6 GIS data model</i>. Retrieved from http://www.iogp.org/geomatics</p> <p>U.K. Offshore Operators Association. (1994). <i>UKOOA data exchange format P5/94 Pipeline position data</i>. Retrieved from http://www.iogp.org/geomatics</p> <p>U.K. Offshore Operators Association. (2002). <i>UKOOA data exchange format P7/2000 Format for well deviation data</i>. Retrieved from http://www.iogp.org/geomatics</p>
Additional Resources:
International Association of Oil and Gas Producers, www.epsg.org

Competency Name:
EXPLORATION AND PRODUCTION (E&P) LIFE-CYCLE PROCESSES
Competency Definition:
Explain the major players, business life cycle, roles, and processes involved in E&P.
Competency Indicators:
<p>Explain the roles of major players in E&P, including operators, regulators, data vendors, software vendors, and service companies.</p> <p>Explain the roles and work functions of internal clients.</p> <p>Explain how internal clients consume data (e.g., planning, appraisal, delineation, and interpretation).</p> <p>Describe the phases of the business lifecycle (e.g., planning, drilling, completing, producing, and disposing).</p> <p>Explain basic terminology used in the E&P industry.</p>
Resources:
<p>American Petroleum Institute. (2013). <i>Wells to consumer interactive diagram</i>. Retrieved from http://www.api.org/oil-and-natural-gas/wells-to-consumer</p> <p>Petroleum Industry Data Exchange (2013). <i>Petroleum industry data dictionary</i>. Retrieved from http://www.pidx.org/pidd/</p> <p>PPDM Association. (2012). <i>PPDM business rule</i>. Retrieved from https://rules.ppdm.org/</p> <p>PPDM Association. (2012). <i>Well identification</i>. Retrieved from http://wellidentification.org/</p> <p>PPDM Association. (2012). <i>Well status</i>. Retrieved from http://wellstatus.ppdm.org/</p> <p>PPDM Association. (2012). <i>What is a well?</i> Retrieved from http://whatisawell.ppdm.org</p> <p>PPDM Association. (2012). <i>Wiki general well and industry data</i>. Retrieved from https://wiki.ppdm.org/Category:Glossary</p> <p>Schlumberger. (2013). <i>Oilfield glossary app</i>. Retrieved from http://www.glossary.oilfield.slb.com/</p>
Additional Resources:
<p>http://cansco.com/oil-field-glossary.html</p> <p>http://www.energistics.org/energistics-standards-directory</p> <p>http://www.energistics.org/asset-data-management/unit-of-measure-standard</p> <p>http://www.energistics.org/asset-data-management/energy-industry-profile-standard</p>

Competency Name:
MASTER DATA MANAGEMENT
Competency Definition:
Explain a set of policies, practices, and procedures used in master data management and comply with them.
Competency Indicators:
Describe master data management in an organization (e.g., creation of a “golden version” of master data attributes). Describe the rationale for master data management within an organization. Describe the impact of master data management on daily activities. Identify master data sources and contributors. Comply with internal master data management policies (where they exist).
Resources:
Mosley, M., Brackett, M., & Earley, S. (Eds.). (2009). <i>The DAMA guide to the data management body of knowledge (DAMA-DMBOK Guide)</i> . Bradley Beach, NJ: Technics Publications.

Competency Name:
COMMUNICATION
Competency Definition:
In a clear and timely manner, communicate with others on the appropriate aspects of data management to support the business.
Competency Indicators:
<p>Use active listening skills when communicating with others.</p> <p>Ask probing questions to better understand business requirements and priorities.</p> <p>Clearly articulate problems and suggestions to internal and external clients.</p> <p>Build effective working relationships within an organization.</p> <p>Establish working relationships with external clients (e.g., vendors, partners, and regulators).</p> <p>Identify and engage the appropriate expert for a task or problem.</p> <p>Explain problems using appropriate technical language.</p> <p>Provide constructive feedback to others.</p> <p>Actively seek feedback from internal clients.</p> <p>Work with business units to ensure the optimal use of data to meet analytic requirements of end users.</p> <p>Communicate the availability of data to internal clients in a timely manner.</p> <p>Use the communication media appropriate to the audience and purpose of communication.</p> <p>Coordinate the movement of data amongst users, disciplines, applications, and stakeholders.</p> <p>Communicate data management standards to users in an organization.</p> <p>Provide an estimated time of delivery of completed tasks to others.</p>
Resources:
<p>http://www.wikihow.com/Communicate-Clearly-Within-the-Workplace</p> <p>http://en.wikipedia.org/wiki/Workplace_communication</p>

EXAM BLUEPRINT

Number of Scored Questions	Number of Experimental (Unscored) Questions	Total Examination Questions	Allotted Exam Time	Average Time per Question
180	20	200	4 hours	72 secs

Certified Petroleum Data Analyst Exam Blueprint

Competency	Approximate Percentage of Questions
Data Governance	11
Data Analysis	30
Data Quality Management	15
Data Security	9
Spatial Data	9
E&P Life-Cycle Processes	15
Master Data Management	9
Communication	2
Total	100

APPENDIX C: POLICIES

ETHICAL INTEGRITY POLICY

A. INTRODUCTION

The Professional Petroleum Data Management Association (“PPDM”) is committed to ethical integrity in all of its certification programs. PPDM requires that all candidates honour the principles of ethical integrity at all times.

B. ETHICAL MISCONDUCT

Ethical misconduct includes actions that have a negative effect on the integrity of the certification program. Offences of this nature are unacceptable. As ethical misconduct can take many forms, the following examples are provided for descriptive purposes and are not intended to constitute an exhaustive list.

It is expected that candidates will familiarize themselves with the actions that are defined as ethical misconduct and ethical dishonesty by PPDM. Candidates who are unclear about what might be considered ethical misconduct should consult PPDM.

1. **Ethical Dishonesty** - Ethical dishonesty is any deliberate attempt to gain advantage by deceiving the administration of PPDM or the Certification Committee. Ethical dishonesty may involve an individual or a group, and includes but is not limited to the following offences:
 - a) **Plagiarism.** Plagiarism is claiming the words, ideas or data of another person as if they were your own. This includes:
 - i) copying another person’s work (including information found on the Internet and unpublished materials);
 - ii) presenting someone else’s work, opinions or theories as if they are your own;
 - iii) working collaboratively on an examination, and then submitting it as if it were created solely by you; or
 - iv) presents work for a PPDM course or program that in any way compromises the integrity of the evaluation process.
 - b) **Cheating** - Cheating is ethical misconduct which arises during examinations or other evaluation process, including:
 - i) using materials or aids not expressly allowed by the instructor in an examination or test, including but not limited to written or electronic material or any other item not authorized by the instructor;
 - ii) copying another person’s answer(s) to an examination or test question;
 - iii) consulting with another person or unauthorized materials during the examination period;
 - iv) improperly submitting an answer to a test or examination question unless specifically permitted by the examination format; or
 - v) improperly obtaining, through deceit, theft, bribery, collusion or otherwise, access to examination paper(s) or set(s) of questions, or other confidential information.

- c) **Misrepresentation of personal identity or performance.** This includes:
 - i) submitting stolen or purchased assignments or research;
 - ii) impersonating someone or having someone impersonate you in person, in writing or electronically. Both the impersonator and the individual impersonated (if aware of the impersonation) are subject to a penalty;
 - iii) falsely identifying oneself or misrepresenting one's personal performance outside of a particular course, in a course in which one is not officially enrolled, or in the application process; or
 - iv) withholding or altering academic information, transcripts or documents.
- d) **Submission of false information.** This includes:
 - i) making false claims or submitting altered, forged or falsified certificates or other documents to PPDM or the Certification Committee;
 - ii) submitting false statements, documents or claims in the ethical appeals or the ethical misconduct process;
 - iii) submitting false credentials to PPDM; or
 - iv) altering, in any way, documents issued by PPDM.

2. Contributing to Ethical Misconduct - Contributing to ethical misconduct is knowingly assisting someone to commit any form of ethical misconduct. This may include, but is not limited to:

- a) allowing work to be copied during an examination or test;
- b) offering, giving or selling answers to tests or exams; or
- c) unauthorized sharing of examination questions and/or answers.

3. Damaging, Tampering or Interfering with the Examination Environment - Obstructing and/or disturbing the activities of others during an examination is ethical misconduct. This involves altering the work of others in order to gain an advantage. Examples include:

- a) tampering with examination answers of others;
- b) stealing or tampering with any certification-related material.

4. Unauthorized Copying or Use of Copyrighted Materials – Intentionally failing to abide by the Copyright Act regarding the copying and use of textbooks, software, and other copyrighted materials is ethical misconduct.

C. PENALTIES AND CONSEQUENCES FOR ETHICAL MISCONDUCT

The Certification Committee is responsible for reviewing potential ethical misconduct by candidates, and the assignment of penalties. The process of review and assignment of penalties is as follows:

1. Notice to the Candidate

The Certification Committee will send a notice to the candidate indicating that the candidate's actions are being reviewed for potential misconduct.

2. Review by the Certification Committee and Assignment of Penalties

The Certification Committee will review the potential misconduct, and, if the Committee deems it appropriate, assign a penalty to the candidate.

The penalty imposed will take into account the severity and the specific circumstances of the misconduct. Once the Certification Committee has determined the appropriate penalty, the candidate will be notified. The following list represents the range of penalties that may be imposed:

- a) A grade of "Fail" may be assigned to the candidate for the certification.
- b) The candidate may be suspended from applying for entry into any PPDM certification programs for a specified period [e.g., one (1) or two (2) years].
- c) If the candidate has previously obtained any PPDM certifications, those certifications may be revoked.
- d) The candidate may be banned for life from taking any further PPDM certification programs.

3. Other Consequences

Depending on the nature of the misconduct, PPDM may take court action against the candidate, including civil or criminal charges.

Appeals

Appeals to penalties for ethical misconduct must be in writing and must be received by the Certification Committee in writing no more than thirty (30) days from the date the candidate receives an assignment of penalty.

Decisions will be made by the Certification Committee and will be based on the information and supporting documentation provided in writing by the candidate.

PPDM PRIVACY POLICY

Please refer to the [PPDM Privacy Policy](#).

APPENDIX D: CONTACT INFORMATION – PPDM HEADQUARTERS

Email:

certification@ppdm.org

Phone:

+1.403.660.7817 (9am - 5pm MST)

Mailing address:

PPDM Association
Bankers Hall, PO Box 22155
Calgary, AB
T2P 4J5 Canada

Office:

Suite 860, 736 8th Ave SW
Calgary, AB
T2P 1H4 Canada