

ALSP -

Accredited Lean Software Development Practitioner

Certification Hand Book

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Accredited Lean Software Development Practitioner (ALSP®)

The ALSP® Certification Copyrights and Ownership

This document lists all areas in which an Accredited Lean Software Development Practitioner is expected to exhibit professional knowledge and competence in accordance to the ACMS Standards, Release 1.0 in addition to the various guidelines to obtain the ALSP® global credential. The ACI ALSP® online certification examinations features questions from areas and topics listed in this document based on the directions given in this document.

In addition, as a member of ACI and as an Accredited Lean Software Development Practitioner, you are expected to abide by the ACI Professional code of conduct as defined towards the end of this certification handbook.

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The ALSP® Certification

The Accredited Lean Software Development Practitioner (ALSP®) is a professional who has demonstrated in a responsible manner, proven knowledge and expertise which make up the body of knowledge recognized by those who are experts in Lean Software Development Methodology towards software development. This is a standard which is based on principles of Lean Software Development and other related agile methodologies which help in implementation of Enterprise level implementation of Lean principles. This certification by ACI enables the participant to demonstrate his or her skills and knowledge of general principles of Enterprise Lean Methods to software development. The other methods which are useful to have knowledge are Scrum, Kanban, Lean Software Development, and Extreme Programming.

In addition, an Accredited Lean Software Development Practitioner is someone who pledges to abide by the ACI code of conduct in his approach to work and stakeholders with whom he or she may interact with.

Benefits of ALSP® Certification

- Demonstrate to employers your level of professionalism in Lean development practices, tools and techniques. Helps you to brand your enterprise Lean development application competency in a credible way.
- Helps you to demonstrate your knowledge way of generic agile methods and reinforces your knowledge of applying the agile principles to real world applications.
- Hold a certification that is more credible than existing entry-level, training or exam-only based offerings.
- Develop a more advanced, applied level of knowledge to gain an understanding of Lean Software Development and the ability to apply relevant project management methods, leading to successful agile projects.
- Actively promote trust and close co-operation between the business and developers and gives the business ongoing visibility into what is happening.
- Combine knowledge of more traditional management methodologies with Lean development and agile to better adapt to a changing business environment.
- Help you to get ahead. ACI certification offers financial benefits by making you stand out and better market yourself to current and prospective employers. Most of our candidates have reported a 3000% ROI on their certification cost with us in a span of 4 years from date of certification.
- ACI certifications are renowned throughout the world. Instead of relying only on a written assessment, our certifications more comprehensively assess a candidate. Also, the quality of our certification governance superior which enables affordable certifications with the highest flexibility available in the market today.

Unique Features of ALSP® certification

- Completely Authenticated by use of advanced, highly secure exam environment developed using proprietary technology created by our exam authentication partners.
- Wide Industry acceptance across the globe. Valid in more than 120 countries.
- ACI provides you with a FREE individual reference copy of ALSPMS® (Accredited Lean Software Development Practitioner Master Standards).
- Already 1000+ certified professionals getting across the globe each month. This rate is highest in the planet for any certification and this rate is set to increase in the next few months.
- Valid for 4 yrs, requires re-certification to maintain the certification (Exam to be written only once in life time if you renew your credential within allowed time). Allows you to update your knowledge frequently with the latest developments in Lean Software Development.
- Convenience of taking the exam in your place at a reasonable time, compared to most other options available in the market currently.
- ACI certifications are very flexible and based on general principles and not on any one specific methodology or practices of any particular industry. This ensures you can transfer between different organizations, geographic locations etc.
- As a part of a four year cycle, our content gets updated in line with the changing needs of industry. Our certification maintenance program requires you to earn 45 Knowledge points (KPs) every four years, which encourages you to continually develop your skills and stay updated with current knowledge.

Comparison of ACI ALSP® with other certification bodies

	PMI-ACP	Scrum Alliance (CSM, CSP)	Agile Certification Institute (AAP®, ASM®, APO®, AKP®, ALSP®, ASAP®)	Agile Certification Institute (CSA®, CAA®)
Brand Recognition	High	High	High	High
Exam Authentication	Yes	No	Yes	Yes
Assessment Convenience	No	Yes	Yes	Yes
Certificate Authentication	Yes	No	Yes	Yes
Affordability	495 \$	595 \$	199 \$	99 \$
Training	Mandatory, Expensive	Mandatory, Expensive	Mandatory, convenient and affordable (Many vendors provide training on ACI online store starting at 39\$)	Mandatory, provided for FREE by ACI online store if you submit details of your student ID card [Must have graduated within two years of credential application date]
Eligibility	2.5 Years Work Experience	No Requirements	1 Year of work Experience	No Requirements
Assessment details				
Exam Time	180 min	N/A	90 min	90 min
Exam Questions	120	35	75	75
Exam Qualification Score	60-65%	N/A	65%	65%
Exam Pass Rate	66%	N/A	85%	95%
Exam Location	Cumbersome Prometric Testing Center based test	Non proctored, Non authenticated online test	Authenticated and Remote Proctored, Webcam monitored online test for convenience.	Authenticated and Remote Proctored, Webcam monitored online test for convenience.
Validity	3 yrs	Lifelong	4 yrs	2 yrs

Eligibility and Candidate Evaluation

The ALSP® participants must register with the ACI to be able to take up this credential. Eligibility requires at-least one completed Lean development or agile project (where Lean development practices are implemented) and a total of one year of work experience. This certification has no other pre requisites.

The ALSP® Credential is awarded on the following parameters

1. A PASS mark of 65% (75 Multiple Choice Questions; 90 Minutes).Two Exam attempts are allowed for a one time single registration to the ALSP exam.
2. A Thesis to be submitted (between 400 to 900 words). The topic can be chosen by the candidate. Sample thesis and some sample topics are provided to the candidate once they clear the written assessment on the Planet ACI portal.
3. A Peer and Manager Recommendation expressing their endorsement of the candidate to appear for the ALSP® certification. Such recommendations must be obtained from three (3) members after the submission of the thesis. Please note that there is flexibility of the choice of managers given to the candidate and an option to change them at any point, during or after the evaluation is done and candidate does not receive a satisfactory rating.

Eligibility Pre-requisites

To be eligible to apply for this certification, a candidate must demonstrate

1. At least one year of work experience, preferably in any of the Agile methods.
2. At least one completed project (Note that we do ask for your company reference letter and experience is based on honor code system. Also ACI takes candidate data confidentiality with utmost importance and we simply do not use or share your data with anyone).
3. Must have taken some form of training before taking up the certification. This can be from any training organization of your choice all around the planet or also from our online ACI store. There are several vendors who provide Agile training on ACI online store starting for 39\$ and this will suffice for training requirements to appear for ALSP® credential examination (If you are not able to get class room training anywhere else).

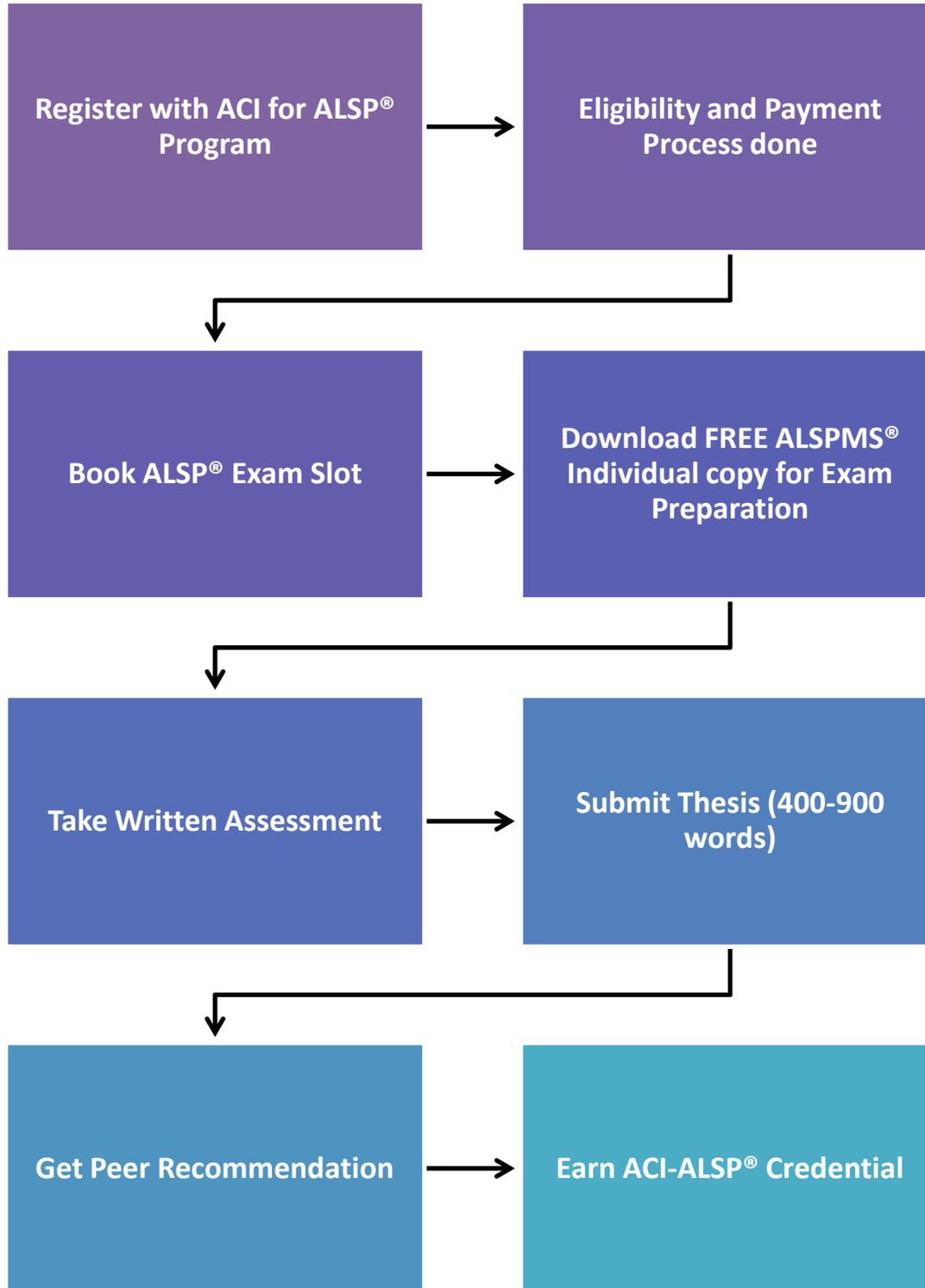
Examination Information

- The written test consists of an objective multiple choice questions numbering 75 and the stipulated time is 90 minutes. There are NO negative markings. A candidate to be successful needs to get 65% aggregate or above to pass the written Exam. While the scoring is based on various sections, the passing of the examination is done based on the aggregate score of the candidate. Also, the scoring is done immediately based on computer generated algorithm.
- You have Two Exam attempts. If you clear the Exam in the First attempt itself, there is no need of the Second attempt. In case the First attempt is not successful the candidate can schedule the Second attempt with a gap of at-least one week from the date of first examination. There are no extra fees for the Second attempt and it can be scheduled any time after a week of the First attempt and within One Year from the date of Registration.
- If for some reason, you were not able to pass the certification after two attempts, you will have to wait for a period of one month before being able to register for the exam for a second time which will provide you with two more attempts. In theory, we do not have a limit on the number of attempts, but between two successive attempts you are expected to have a minimum waiting time of one month.
- The Successful candidates in the written exam are required to submit a recent thesis on benefits of Kanban methodology between 400 to 900 words which would be evaluated by the ACI Agile Competency Board. The title and thesis will be completely submitted by the candidate. Several sample thesis and titles are provided for you once you clear the written assessment.
- Following the Thesis, the candidates should obtain a Peer/manager recommendation. The candidate should get an aggregate of 50% in the Peer rating to PASS. If the score is less than 50%, the candidate can opt for a re-evaluation with a different set of managers.
- Our experience over the last thousands of certifiants has indicated that all the candidates who were able to clear the written test were able to successfully complete the thesis and peer evaluation. In case, you have difficulty with completion of thesis or peer evaluation after a reasonable attempt, a separate face-to-face evaluation may be done by the board of ACMS (Agile Competency Master Standards) to enable you to receive the ALSP® credential.

Examination Validity and Re-certification Procedure

- Once you receive the global credential ALSP®, it valid for a period of 4 full years. To renew the certificate, the candidate has to provide evidence of continued learning and education of Kanban and agile methodologies in general.
- Towards this, the candidate has to submit evidence of earning 45 KPs (Knowledge Points) within a span of 4 years. The various ways, a person can earn the knowledge points are provided below. Renewal of certificate is a lifelong service provided, free of cost as long as the conditions above are met.
 - A working professional can earn up to 3 KPs per each year of professional work.
 - A candidate can earn up to a total of 5 KPs per year for any text books or research publications studied on his own.
 - A candidate can earn unlimited KPs based on trainings aligned with agile methods. Each hour of training counts for one KP. The trainings can be done either in person or online.
- If you fail to renew your certificate within a span of 4 years, your certificate license will expire and will be automatically deleted from our registry. After that, a candidate has to re-take the exam again, to regain the credential. ACI normally provides a grace period of 6 months in case of an expired certificate.

Flowchart of the ACI-ALSP® Certification Program



Training Information

- At this point in time, ACI does not insist on any mandatory training from our organization to take up ALSP® certification. You can take training from any organizations of your choice to satisfy the mandatory training requirements for the ALSP® credential. However, we have noticed that 20% of our credential holders (in a mandatory post assessment survey) have indicated they have taken training from our own online store.
- You can do self study based on content available on our website and also practice some of the questions available on our website in addition to purchasing a license for training from our vendors on our online store.
- You are also strongly encouraged to study the reference books suggested in the later sections of this document to feel confident about taking up the ALSP® certification exam.

Certificate Shipment Details

- You will be receiving a detailed exam results summary along with a certificate (as soon as you complete the requirements for the credential) online.
- The written assessment details are provided immediately after the written assessment.
- You will also receive a physical certificate along with a lapel pin by snail mail within 3 months of your completing the requirements of the credential.
- The physical certificates are shipped by snail mail from our certificate processing centers located in Singapore, Srilanka, Qatar and India.

Suggested Study Reference Books and Links

1. Lean Software Development: An Agile Toolkit, Mary Poppendieck, Tom Poppendieck
2. Implementing Lean Software Development: From Concept to Cash: Mary Poppendieck, Tom Poppendieck
3. Leading Lean Software Development: Results Are not the Point, Mary Poppendieck, Tom Poppendieck
4. The Lean Mindset: Ask the Right Questions, Mary Poppendieck, Tom Poppendieck
5. The Principles of Product Development Flow: Second Generation Lean Product Development Hardcover, Donald G. Reinertsen
6. Agile Estimating and Planning, Mike Cohn

Preparation Outline

1. Basics of LEAN Software Development
 - a) What is LEAN
 - b) Differences and similarities between LEAN and Agile
 - c) Elements of LEAN IT
 - d) Adopting the LEAN Mindset

2. LEAN Principles and Tools
 - a) 7 Lean Principles
 - b) Eliminate Waste
 - c) Seven Wastes of Software Development
 - d) Value Stream Mapping

3. Amplify Learning and Tools
 - a) Amplify Learning
 - b) Iteration Planning
 - c) Team Commitment
 - d) Convergence
 - e) Negotiable Scope
 - f) Synch and Stabilize
 - g) Spanning Application
 - h) Matrix
 - i) Set-Based Development

4. Decide as Late as Possible and Tools
 - a) Decide as Late as Possible
 - b) Options Thinking
 - c) The Last Responsible Moment
 - d) Tactics to Delay Decisions
 - e) Making Decisions

5. Deliver as Fast as Possible
 - a) Deliver as Fast as Possible
 - b) Pull Systems
 - c) Information Radiators
 - d) Queuing Theory
 - e) Cost of Delay

6. Empower the Team and Tools
 - a) Empower the Team
 - b) Self-Determination
 - c) Motivation
 - d) Leadership
 - e) Expertise

7. Build Integrity In and Tools
 - a) Build Integrity In
 - b) Perceived Integrity
 - c) Model Driven Design
 - d) Conceptual Integrity
 - e) Employ Integrated Problem Solving Practices
 - f) Refactoring
 - g) Testing
 - h) Scaffolding

8. See the Whole
 - a) See The Whole
 - b) Ask the 5 Why's
 - c) Measurements
 - d) Contracts
 - e) LEAN in different types of Contracts

9. Scaling up to a LEAN ENTERPRISE
 - a) LEAN – An Attitude
 - b) LEAN – Benefits
 - c) LEAN – Six Core Strategies
 - d) Characteristics of a LEAN Enterprise
 - e) Role of a LEAN Enterprise Leader
 - f) Scaling up LEAN Production to LEAN Enterprise
 - g) Major Challenges - LEAN Enterprise

10. Professional Ethics and Cultural Sensitivity

ALSP® Exam Preparation Guidelines

- You are strongly encouraged to go through the website [Lean Software Development preparation material](#) for ALSP.
- You are also strongly advised to practice the questions given on the reference website above and also the questions provided in this certification handbook.
- You are expected to take some form of agile training of your choice for this certification. You can also take up the training from training online from our vendors at ACI online store starting from 39\$.
- We strongly recommend, you spend at-least about 20 hours of preparation for this certification exam. This preparation is suggested to be spread over a period of one to two weeks.
- You are recommended to read at-least one of the suggested reference text books by ACI.
- Take the exam at a convenient time and get plenty of sleep a day before the certification exam.
- Make sure you take the certification in a quiet place in a closed room with no disturbance for 90 minutes. Our web cam monitored “Remote Proctoring Technology” flags any individuals other than the candidate in the web cam view.
- The test software locks your screen, and if you move away from the test screen, you will be given a warning. After three warnings, the test will automatically terminate and you have to take a second chance. ACI does not allow any appeals for any reasons whatsoever for this violation which are automatically flagged by our software.
- As a member of ACI, you are expected not to disclose in any public forum the questions you are evaluated on in the ACI assessment for your credential, or disclose any information which is not publicly given out for distribution by ACI. Any action to the contrary will violate ACI code of conduct and could result in revocation of your credential.

ALSP® Thesis Writing Guidelines

- All ALSP® registrants have to write a thesis on a topic they can choose at their own discretion. This is a mandatory requirement for all registrants and there cannot be any exception to this.
- The thesis has to be written in a text file with no images or graphics and uploaded in the format provided online on designated locations on the planet ACI Assessment Portal as instructed by ACI through email or provided on Planet ACI.
- A typical thesis would have a word-count of 400 to 900 words.
- A few sample thesis provided by previous credential holders of ALSP® along with a few suggested topics are provided on the ACI portal for all the registered ALSP® registrants.
- It is expected that the thesis will be of original content and not copied from any website. This will be verified by ACI through automated tools. However, you are allowed to be inspired by any other public information available.

ALSP® Manager/Peer Recommendation Guidelines

- To complete their eligibility for ALSP® Award consideration by ACI, all ALSP® registrants have to furnish Manager or peer recommendations. This is mandatory and there are no exceptions.
- Manager or peer recommendations are feedbacks from the Registrant's senior/ supervisor/ managers/peers on areas like Registrant's work performance, professional competence and ethics.
- Manager or peer recommendations are to be filled-in online on the ACI Assessment portal by Registrant's stakeholders as mentioned above. The registrant shall be given a portal link which (s) he has to share with her/ his referees. The referees will then go online on this link and fill-in the Report and submit.
- The report is an online survey of 5 questions and will take roughly about 3 minutes to complete.
- We understand the difficulties associated with this feedback and provide registrants flexibility to change the referees at any time, before or after getting the feedback.
- In case, the applicant is not able to get the required feedback score, the registrant will be given the option to change the referees and opt for another set of feedback at his discretion with no additional fee.

Sample ALSP® Practice Questions

1. An example of software development waste is"
 - a. Inventory
 - b. Partially Done Work**
 - c. Transportation
 - d. Voice of the customer

2. Lean software development was envisioned by
 - a. Tom Poppendieck**
 - b. Doug Cutting
 - c. James Gosling
 - d. Joseph Duran

3. One of the LEAN principles is
 - a. Decide as late as possible**
 - b. Decide as soon as possible
 - c. Decide as fast as possible
 - d. "Decide based on situation and as normally as possible"

4. "Value Stream Mapping is also called"
 - a. "Material and information flow mapping"**
 - b. "Equipment and data flow mapping"
 - c. Deliverable to customer mapping
 - d. Value chain to supplier mapping

5. In software development, amplify learning helps in
 - a. "Long iterations leading to more analysis"
 - b. "Build a specific solution and fix the problem"
 - c. "Run the tests as soon as code is written"**
 - d. Building a shared team working on more than one project at a time

6. Set Based approach emphasizes
 - a. "communicating a single point choice"
 - b. communicating multiple solutions
 - c. communicating constraints**
 - d. performing multiple iterations

7. The last responsible moment is one in which
 - a. **"failing to take a decision eliminates an important alternative"**
 - b. The final responsibility of the project manager before handoff to the client
 - c. The final responsibility of the Developers before handoff to the client
 - d. Taking a final decision which facilitates the smooth handover of the project

8. "The tool which creates an environment in which development teams can actively participate and improve their own work areas is"
 - a. Empower the Team
 - b. Motivation
 - c. **Self-Determination**
 - d. Build Integrity in

9. In any project management methodology, leadership is important. The view of Lean Software development in regards to leadership and leaders is no different. In Lean, Leaders
 - a. Do 'Things Right'
 - b. Track and Control
 - c. **Enable motivation**
 - d. Plan and Budget

10. Scaffolding refers to
 - a. Information released in small batches
 - b. Standards developed by knowledge sharing and expertise
 - c. Real time information and feedback
 - d. **A supporting frameworks that lets you do things that would otherwise be dangerous**

11. "An example of Information Radiator is"
 - a. **Kanban card**
 - b. Supply chain responsive matrix
 - c. Task switching
 - d. Quality at source

12. "An important benefit of implementing LEAN is"
 - a. **"The communication with the customer is effective and results in low latency"**
 - b. "The communication with the customer is effective and results in high latency"
 - c. "The communication with the customer is effective and results in delay of the deliverable"
 - d. "The communication with the customer is short"

13. "Customers use the concept of ' _____ ' approach from a value stream"
- a. Push
 - b. Batch
 - c. Pull**
 - d. Queue
14. "The Total number of Lean Principle and Tools are"
- a. 7,17
 - b. 5,17
 - c. 5,22
 - d. 7,22**
15. "The most fundamental LEAN principle is"
- a. Reduce Cycle time
 - b. Increase the efficiency of workforce
 - c. Eliminating Waste**
 - d. Motivation

ACI® Professional Code of Conduct

All ACI credential holders, including all the Accredited Lean Software Development Practitioners are expected to abide by the ACI Professional Code of Conduct illustrated below. These are the core values which govern the actions of all ACI members and form the basis of our efforts, policies, and decisions. These are categorized in the following seven sections. As a member of ACI community you are expected to adhere to this code of conduct. In case of any breach of ACI code of conduct, ACI in its sole discretion may hold you accountable for such breach and that such accountability may include the suspension or loss of your ACI membership and/or any ACI credentials earned by you. As an ACI member, you shall

Honesty

- Put honest effort in the performance of any duties taken up.
- Do not knowingly make unauthorized commitments or promises of any kind purporting to bind anyone including other team members, employers etc.
- Not engage in or condone behavior that is designed to deceive others.

Responsibility

- Disclose waste, fraud, abuse, and corruption to appropriate authorities.
- Adhere to all laws and regulations that provide equal opportunity for all members of the society we are part of regardless of race, color, religion, sex, national origin, age, or handicap.
- Ensure compliance with Laws, Rules & Regulations
- Ensure protection and proper use of Assets
- Ensure reporting of any Illegal or Unethical Behavior
- Ensure commitment and Focus
- Take responsibility for and fulfill the commitments that you undertake – Do what you say and say what you will do clearly.
- Make decisions based on the best interests of society, public safety, and the environment.
- Take ownership of any mistakes, errors and make corrections promptly while communicating the same to the concerned at the earliest. Communicate promptly to the appropriate individual or body when you discover errors or omissions caused by others.
- Protect proprietary or confidential information that has been entrusted to you.
- Proactively and fully disclose any real or potential conflicts of interest to the appropriate parties.

Openness

- Earnestly seek to understand the truth and create environment where others can tell the truth.
- Not castigate others for telling the truth and their honest opinions.
- Demonstrate transparency in your decision-making process.

- Provide accurate information in a visible and timely manner.
- Make commitments and promises, implied or explicit, in good faith.

Fairness

- Endeavor to avoid any actions creating the appearance that they are violating the law or the ethical standards. Determine such actions from the perspective of a reasonable person with knowledge of the relevant facts.
- Avoid Conflicts of Interest
- Do not take advantage of any undue corporate opportunities, Gifts, loans,
- Do not engage in any outside activity, employment, personal investments or personal interests without prior approvals of the required stakeholders.
- Engage in fair dealing with all the members of the society.
- Do not exercise the power of your expertise or position to inappropriately influence the decisions or actions of others in order to benefit personally at expense of others.
- Do not discriminate against others based on, but not limited to, gender, race, age, religion, disability, nationality, or sexual orientation.

Respect

- Respect the rights and beliefs of others; even if they do you agree with your own beliefs.
- Listen to others' points of view, and seek to understand them.
- Approach directly those persons with whom we have a conflict or disagreement immediately without inordinate delay.
- Protect Confidential, Proprietary Information of the concerned parties.

Courage

- Avoid shifting blame to others for negative outcomes and take credit for others achievements.
- Accept possible failures, but learn from them and apply them for next attempts.
- Share bad news even when it may be poorly received.
- Be open to change and believe that change helps in improving the quality of work and services.
- Admit when you need help and ask for help.

Cultural Sensitivity

- Value and respect diversity and be sensitive to cultural differences with the teams.
- Deliberately and intentionally examine cultural misinformation.
- Have empathy by genuinely trying to understand other persons.

ALSP® Important Information

1. The Knowledge & Competence Areas mentioned in this document may change in the event of updating or revision of the ACMS standards. ACI duly notifies all its associates, partners, clients, past certificants, certification applicants/registrants and other stakeholders of all such changes and alterations.
2. The list of topics and areas mentioned in this document purports to exactly present the scope of a ACI Certification Examination and does not take any responsibility for any trainings taken towards this by an individual. ACI is NOT RESPONSIBLE in any way for training quality or training content and cannot be held responsible for an applicant/ registrant/ certification examinee failing the ACI Certification Examination because of having undergone training with a certain training provider.
3. All stakeholders are requested to appreciate that it is impossible to create a Training or Learning Program or Training manual that will exactly and completely cover the entire assessment scope to the depths required by a certification body. Hence, under no circumstances can a certification registrant or a Certification Training Provider (CTP) expect the questions in any ACI Certification Examination to be exactly based on the Training Content/ Training Manual/ Instruction Material, Learning Material etc., provided by anyone including ACI. ACI's judgment and decisions on assessment questions have been arrived at after years of extensive international research and analysis and shall remain final, and hence, also, ACI's decisions on a particular Assessment/ Examination event and on a particular certification aspirant/ applicant shall remain final.