

RET – Design and Accounting, U.S. Exam

Spring 2019/Fall 2019

Important Exam Information:

[Exam Registration](#)

Candidates may register online or with an application.

[Order Study Notes](#)

Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.

[Introductory Study Note](#)

The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.

[Case Study](#)

The case study will be provided with the examination.
Candidates will not be allowed to bring their copy of the case study into the examination room.

[Past Exams](#)

Past Exams from 2000-present are available on SOA website.

[Updates](#)

Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

1. Topic: Benefit Plan Structure and Features

Learning Objectives

The candidate will understand how to analyze different types of registered/qualified retirement plans and retiree health plans.

Learning Outcomes

The Candidate will be able to:

Describe the structure of the following plans:

- a) Traditional defined benefit plans
- b) Defined contribution and savings plans
- c) Hybrid plans
- d) Retiree health plans
- e) Other alternative retirement plans such as shared risk plans, target benefit plans, etc.

Given a plan type, explain the relevance, risks and range of plan features including the following:

- a) Plan eligibility requirements
- b) Benefit eligibility requirements, accrual, vesting
- c) Benefit / contribution formula, including the methods of integration with government-provided benefits
- d) Payment options and associated adjustments to the amount of benefit
- e) Ancillary benefits
- f) Benefit subsidies and their value, vested or non-vested
- g) Participant investment options
- h) Required and optional employee contributions
- i) Phased retirement and DROP plans
- j) Risk-sharing provisions

Resources

- *Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches*, Allen et al., 12th Edition, 2018
 - Ch. 2, 3, 6-13, 17, 21, 29, 31 (pp. 593-606)
- *Fundamentals of Private Pensions*, McGill et al., 9th Edition, 2010
 - Ch. 5, 9, 10 & 12
- *Morneau Shepell Handbook of Canadian Pension and Benefit Plans*, Shepell, Morneau, Whiston, Bethune and Clooney, J. Gregory, 16th Edition, 2016
 - Ch. 1, 3, 6, 16 (background only) & 30

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- *Fundamentals of Retiree Group Benefits*, Yamamoto, Dale H., 2nd Edition, 2015
 - Ch. 1, 2 (pp. 20-25), 4 (excluding pp. 89-110) & 5 (p. 168 only)
- DA-100-13: Issues for Implementing Phased Retirement in Defined Benefit Plans
- DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing
- DA-103-13: Risk Allocation in Retirement Plans: A Better Solution
- DA-104-13: Deferred Retirement Option Plans (“DROP” Plans)
- DA-110-13: Integration with Social Security
- DA-112-13: Converting Pension Plans from a DB to a DC design – Issues to Consider in Canada, pp. 1–6
- DA-159-16: The OECD Roadmap for the Good Design of Defined Contribution Pension Plans
- DA-164-17: Defined Contribution Plan Success Factors
- DA-165-17: Phased Retirement – An Important Part of the Evolving Retirement Scene
- DA-812-15: State and Local Pension Costs: Pre-Crisis, Post-Crisis and Post-Reform
- DA-815-17: Strategic Moves: The Exchange Option for Retirees
- DA-820-18: Multi-Employer Plans
- [CIA Report of the Task Force on Target Benefit Plans](#)
- [New Retirement Plan Designs for the 21st Century, Pension Forum, December 2008](#), pp. 41-56 (including commentary and responses)
- [Embedded Options in Pension Plans: Valuation of Guarantees in Cash Balance Plans](#), sections 1, 2, 3, 4, 6, 7 & Appendix II
- [The Next Evolution in Defined Contribution Retirement Plan Design: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs](#)
- [Analysis of Target Benefit Plan Design Options](#), pp.12-16

2. Topic: Benefit Plan Regulations Applicable to Plan Design
Learning Objectives
The candidate will understand the impact of the regulatory environment on plan design.
Learning Outcomes
The Candidate will be able to: <ul style="list-style-type: none">a) Explain and apply restrictions on plan design features to a proposed plan designb) Explain and test for limits on plan designs and features that protect participant rightsc) Test for plan design restrictions intended to control the use of tax incentivesd) Describe the process and apply the principles and rules governing the conversion from one type of plan to anothere) Understand conflicts between regulation and design objectives and recommend alternatives
Resources
<ul style="list-style-type: none">• <i>Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches</i>, Allen et al., 12th Edition, 2018<ul style="list-style-type: none">○ Ch. 3, 6 -10, 12-14, 17, 21 & 31 (pp. 593-606)• <i>Fundamentals of Private Pensions</i>, McGill et al., 9th Edition, 2010<ul style="list-style-type: none">○ Ch. 12• DA-132-13: Turner, Pension Policy: The Search for Better Solutions, 2009, Ch. 5• DA-158-15: New Brunswick’s New Shared Risk Pension Plan• DA-160-18: OECD Pensions outlook 2016 (Highlights)• CIA Report of the Task Force on Target Benefit Plans

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3. Topic: Participant Risks
Learning Objectives
The candidate will be able to analyze the risks faced by retirees and the participants of retirement plans and retiree health plans.
Learning Outcomes
The Candidate will be able to: <ul style="list-style-type: none">a) Identify risks faced by retirees and the elderlyb) Describe and contrast the risks faced by participants of<ul style="list-style-type: none">i. Government sponsored retirement plansii. Single employer sponsored retirement plansiii. Multiemployer retirement plans, andiv. Social insurance plansc) Evaluate benefit adequacy and measure replacement income for members of a particular plan given other sources of retirement incomed) Propose ways in which retirement plan and retiree health plan design can manage the range of risks faced by plan participants and retirees
Resources
<ul style="list-style-type: none">• <i>Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches</i>, Allen et al., 12th Edition, 2018<ul style="list-style-type: none">○ Ch. 11, 14, 17, 21 & 31 (pp. 593-606)• <i>Fundamentals of Private Pensions</i>, McGill et al., 9th Edition, 2010<ul style="list-style-type: none">○ Ch. 5, 9 & 12• DA-102-13: OECD paper, Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing• DA-103-13: Risk Allocation in Retirement Plans: A Better Solution• DA-114-13: Risk Management and Public Plan Retirement Systems - Appendices only (pp. 1-33 background only)• DA-115-13: Private Pensions: Alternative Approaches Could Address Retirement Risks Faced by Workers but Pose Tradeoffs, pp.1-35, GAO• DA-161-16: Pension Issues in Mergers and Acquisitions• DA-166-17: Shifting Public Sector DB Plans to DC, pp. 1-22• DA-172-18: The Promise of Defined Ambition Plans: Lessons for the United States• DA-173-18: How Accurately does 70% Final Employment Earnings Replacement Measure Retirement Income (In)Adequacy? Introducing the Living Standards Replacement Rate (LSRR) – sections 3.1, 3.2, 3.4, 4 & 5 (other sections and Appendices background only)

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- DA-174-18: An Improved Application of the Variable Annuity
- DA-817-18: Savings Medicare Beneficiaries Need for Health Expenses
- [CIA Report of the Task Force on Target Benefit Plans](#)
- [CIA Ed Note: Financial Risks Inherent in Multi-Employer Pension Plans and Target Benefit Pension Plans, CIA TF on MEPP/TBPP Funding, May 2011](#)
- [The Next Evolution in Defined Contribution Retirement Plan Design: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs](#)
- [Hybrid Pensions: Risk Sharing Arrangements for Pension Plan Sponsors and Participants](#)
- [Managing Post-Retirement Risks, A Guide to Retirement Planning](#)

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4. Topic: Sponsor Risks

Learning Objectives

The candidate will understand how to evaluate plan design risks faced by sponsors of retirement plans and retiree health plans.

Learning Outcomes

The Candidate will be able to:

- a) Identify how plan features, temporary or permanent, can adversely affect the plan sponsor
- b) Assess the risk from options offered, including:
 - i. Phased retirement
 - ii. Postponed retirement
 - iii. Early retirement
 - iv. Option factors
 - v. Embedded Options
 - vi. Portability Options
- c) Recommend ways to mitigate the risks identified with a particular plan feature
- d) Analyze the issues related to plan provisions that cannot be removed
- e) Assess the impact of possible changes in plan design due to changes in legislation

Resources

- DA-100-13: Issues for Implementing Phased Retirement in Defined Benefit Plans
- DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing
- DA-103-13: Risk Allocation in Retirement Plans: A Better Solution
- DA-104-13: Deferred Retirement Option Plans (“DROP” Plans)
- DA-114-13: Risk Management and Public Plan Retirement Systems, Appendix only (pp. 1-33 background only)
- DA-127-13: The Economics of State and Local Public Pensions
- DA-154-15: Implementing Early Retirement Incentive Programs: A Step-by-Step Guide
- DA-166-17: Shifting Public Sector DB Plans to DC, pp. 1-22
- [CIA Report of the Task Force on Target Benefit Plans](#)
- [New Retirement Plan Designs for the 21st Century, Pension Forum, December 2008](#), pp. 41-56 (including commentary and responses)
- [Embedded Options in Pension Plans: Valuation of Guarantees in Cash Balance Plans](#), sections 1, 2, 3, 4, 6, 7 & Appendix II
- [Embedded Options in Pension Plans, SOA Pension Section](#), pp.1-17

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- [The Next Evolution in Defined Contribution Retirement Plan Design: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs](#)
- [Hybrid Pensions: Risk Sharing Arrangements for Pension Plan Sponsors and Participants](#)
- [Pension Risk Transfer: Evaluating Impact and Barriers for De-Risking Strategies](#), Dec 2014, pp. 16, 17 & 20-27
- [Behavioral Finance and the Decision-Making Process for Defined Benefit Plan Sponsors, Pension Section News](#), Feb 2016

5. Topic: Sponsor's Goals and Benefit Plan Design

Learning Objectives

The candidate will understand how to evaluate sponsor's goals for the retirement plan, evaluate alternative plan types and features, and recommend a plan design appropriate for the sponsor's goals.

Learning Outcomes

Given a context, the Candidate will be able to:

- a) Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan
- b) Assess the tradeoffs between different goals
- c) Assess the feasibility of achieving the sponsor's goals for their retirement plan
- d) State relationships or recognize contradictions between a sponsor's plan design goals and the retirement risks faced by retirees
- e) Identify the ways that regulation impacts the sponsor's plan design goals
- f) Design retirement programs that manage retirement risk and are consistent with sponsor objectives
- g) Design retirement programs that promote employee behavior consistent with sponsor objectives.
- h) Evaluate the pros and cons from both a sponsor and employee perspective of introducing options that impact the labor force demographics
- i) Recommend a method to integrate government-provided benefits with retirement plan designs in order to meet the plan sponsor's particular goals and defend the recommendation
- j) Advise a plan sponsor regarding the choice of design elements for their retiree health program
- k) Evaluate and incorporate, as appropriate, different social insurance and employer sponsored plan types and features that occur internationally in providing recommendations
- l) Give examples of plans that are appropriate for multinational companies and their employees including third country nationals and expatriates
- m) Recommend an appropriate plan type and plan design features for providing retirement benefits and defend the recommendations

Resources

- *Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches*, Allen et al., 12th Edition, 2018
 - Ch. 2, 3 & 29
- *Fundamentals of Private Pensions*, McGill et al., 9th Edition, 2010
 - Ch. 5
- *Fundamentals of Retiree Group Benefits*, Yamamoto, Dale H., 2nd Edition, 2015
 - Ch. 1 & 4 (excluding pp. 89-110)
- DA-100-13: Issues for Implementing Phased Retirement in Defined Benefit Plans
- DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing

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- DA-103-13: Risk Allocation in Retirement Plans: A Better Solution
- DA-104-13: Deferred Retirement Option Plans (“DROP” Plans)
- DA-105-13: Measuring Terminable Postretirement Obligations
- DA-107-13: Green DB Eliminate Wasteful Practices and Make Your DB Plan Sustainable
- DA-125-13: Should Variable Pay Count Towards Benefits Calculations?
- DA-130-13: International (offshore) Pension Plans - A Growing Trend
- DA-132-13: Turner, Pension Policy: The Search for Better Solutions, 2009, Ch. 1 (pp. 4-11) and Ch. 5
- DA-133-13: Chapter 34 of *The Handbook of Employee Benefits: Health and Group Benefits*
- DA-164-17: Defined Contribution Plan Success Factors
- DA-165-17: Phased Retirement – An Important Part of the Evolving Retirement Scene
- DA-166-17: Shifting Public Sector DB Plans to DC, pp. 1-22
- DA-172-18: The Promise of Defined Ambition Plans: Lessons for the United States
- DA-174-18: An Improved Application of the Variable Annuity
- DA-813-16: Freezing Defined Benefit Plans
- [New Retirement Plan Designs for the 21st Century](#), Pension Forum, Dec 2008, pp. 41-56 (including commentary and responses)

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6. Topic: Executive Plan Design
Learning Objectives
The candidate will understand how to analyze, synthesize and evaluate plans designed for executives or the highly paid.
Learning Outcomes
The Candidate will be able to: <ul style="list-style-type: none">a) Given a specific context, synthesize, evaluate and apply principles and features of executive deferred compensation retirement plansb) Given a specific context, apply principles and features of supplemental retirement plansc) Integrate a plan for executives with the basic benefit plan
Resources
<ul style="list-style-type: none">• <i>Retirement Plans - 401(k)s, IRAs and Other Deferred Compensation Approaches</i>, Allen et al., 12th Edition, 2018<ul style="list-style-type: none">○ Ch. 14• DA-135-13: Towers Perrin, The Handbook of Executive Benefits, Chapter 15 (Golden Parachutes) pp. 238-244 only• DA-156-15: Moving from a DB Executive Retirement Plan to a DC Executive Retirement Plan, October 2014 (parts 1, 2 & 4)• DA-621-17: U.S. Tax Rules Impact Canadian-Sponsored Plans• DA-802-13: Internal Revenue Code 409A and Non-Qualified Plan Design Consideration• DA-803-13: Evaluating Financing Options for Nonqualified Benefit Plans

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7. Topic: Actuarial Assumptions
Learning Objectives
The candidate will understand how to analyze/synthesize the factors that go into selection of actuarial assumptions.
Learning Outcomes
Given a context, the Candidate will be able to: <ul style="list-style-type: none">a) Evaluate appropriateness of current assumptionsb) Describe and explain the different perspectives on the selection of assumptionsc) Describe and apply the techniques used in the development of economic assumptionsd) Recommend appropriate assumptions for a particular type of valuation and defend the selectione) Select demographic and economic assumptions appropriate for a projection valuation
Resources
<ul style="list-style-type: none">• <i>Fundamentals of Retiree Group Benefits</i>, Yamamoto, Dale H., 2nd Edition, 2015<ul style="list-style-type: none">○ Ch. 9 (pp. 308-339 & 350-357)• DA-136-17: Selection of Actuarial Assumptions, Consultant Resource Manual, SOA Version, Mercer, pp. 5-69• DA-137-13: Pension Projections• DA-138-13: Discounting State and Local Pension Liabilities• DA-139-15: ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations• DA-140-15: ASOP 27 Selection of Economic Assumptions for Measuring Pension Obligations• DA-162-16: Selecting and Documenting Mortality Assumptions for Pensions including Appendix 2 (Appendix 1 for background only)• DA-167-16: ASOP 25: Credibility Procedures• DA-171-17: AAA Exposure Draft: Selecting Investment Return Assumptions based on Anticipated Future Experience• DA-175-18: Alternatives for Pension Cost Recognition – Implementation Approaches Using Bond Models• DA-176-18: Expected Return• DA-177-18: Fixed Income Methodology Overview• DA-178-18: Equity Methodology Overview• DA-818-19: Financial Reporting Considerations Related to Pension and other Postretirement Benefits• Getzen Model of Long-Run Medical Cost Trends

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- [Duration and Convexity for Pension Liabilities](#), Pension Section News Issue #81, Sep 2013
- [Can Pensions Be Valued as Marketed Securities, Bader](#), Pension Section News, Jun 2009
- [What's Wrong with ASOP 27? Bad Measures, Bad Decisions](#), pp. 40-46
- [Credibility Educational Resource for Pension Actuaries](#), Society of Actuaries

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8. Topic: Funding Policy and Accounting Standards
Learning Objectives
The candidate will understand how to recommend and advise on the financial effects of funding policy and accounting standards in line with the sponsor's goals, given constraints.
Learning Outcomes
The Candidate will be able to: <ul style="list-style-type: none">a) Perform valuations for special purposes, including:<ul style="list-style-type: none">i. Plan termination/windupii. Accounting valuationsiii. Open group valuationsiv. Plan mergers, acquisitions and spinoffsb) Analyze, recommend, and defend an appropriate funding method and asset valuation method in line with the sponsor's investment policy and funding goals.c) Demonstrate how the retirement plan's cash inflows and outflows can affect the plan sponsor.d) Advise retirement plan sponsors on funding costs including tax deductibility, required contributions and other alternatives to meet the sponsor's goals, consistent with government regulation.e) Advise plan sponsors on accounting costs and disclosures for retirement plans under various standards and interpretations.f) Demonstrate the sensitivity of financial measures to given changes in plan design.g) Describe how a plan's funded status can impact union negotiations and multiemployer plans.h) Perform and interpret the results of projections for short and long range planning including the effect of proposed plan changes.
Resources
<ul style="list-style-type: none">• <i>Morneau Shepell Handbook of Canadian Pension and Benefit Plans</i>, Shepell, Morneau, Whiston, Bethune and Clooney, J. Gregory, 16th Edition, 2016<ul style="list-style-type: none">○ Ch. 6 & 13 (pp. 407-413)• <i>Fundamentals of Retiree Group Benefits</i>, Yamamoto, Dale H., 2nd Edition, 2015<ul style="list-style-type: none">○ Ch. 5 (excluding pp. 161-167 & 176), 7 & 9 (pp. 308-339 & 350-357)• DA-105-13: Measuring Terminable Postretirement Obligations• DA-114-13: Risk Management and Public Plan Retirement Systems - Appendices only (pp. 1-33 background only)• DA-137-13: Pension Projections

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- DA-142-15: ASOP 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions
- DA-145-13: Acquiring a U.S. Operation—A Primer
- DA-146-15: ASOP 6, Measuring Retiree Group Benefit Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions
- DA-147-13: Intricately Linked: Pensions and Corporate Financial Performance
- DA-157-18: PWC IFRS Manual of Accounting Ch. 12 (excluding FAQ 12.113.2 to 12.127.1)
- DA-168-19: IFRS and US GAAP: Similarities and Differences, Ch. 5 only
- DA-169-17: Mergers and Acquisitions: Key considerations for retirement plan conversion
- DA-170-17: Accounting for Buy-ins
- DA-175-18: Alternatives for Pension Cost Recognition—Implementation Approaches Using Bond Models
- DA-179-19: Introduction (A58), IFRS1 (paragraphs 1-40 & Appendix A), IAS19, IFRIC14
- DA-180-18: Alternative Approaches to Calculating Service and Interest Cost under FASB ASC Topic 715, KPMG
- DA-804-19: FASB Accounting Standards Codification Topic 715
- DA-806-18: ASOP 21 - Responding to or Assisting Auditors or Examiners in Connection with Financial Audits, Financial Reviews and Financial Examinations
- DA-807-13: ASOP 44 - Selection and Use of Asset Valuation Methods for pension Valuations
- DA-811-15: Gearing Up to Comply with GASB's New Accounting Standards for Public Sector Pension Plans and Sponsoring Employers, Segal, *Public Sector Letter*, December 2012
- DA-814-16: Accounting for Plan Splits & Plan Mergers Under U.S. GAAP
- DA-816-17: Accounting for Pension Buy-In Arrangements
- DA-819-18: The Funding of State and Local Pensions: 2015-2020 (Appendices for background only)
- DA-820-18: Multi-Employer Plans
- [Embedded Options in Pension Plans: Valuation of Guarantees in Cash Balance Plans](#), sections 1, 2, 3, 6, 7, & Appendix II
- [CIA Educational Note: Financial Risks Inherent in Multi-Employer Pension Plans and Target Benefit Pension Plans, CIA Task Force on MEPP/TBPP Funding](#), May 2011
- [Embedded Options in Pension Plans, SOA Pension Section](#), pp.1-17
- [Duration and Convexity for Pension Liabilities, Pension Section News Issue #81](#), Sep 2013
- [Pension Risk Transfer: Evaluating Impact and Barriers for De-Risking Strategies](#), pp. 16, 17 & 20-27
- [Behavioral Finance and the Decision-Making Process for Defined Benefit Plan Sponsors, Pension Section News](#), Feb 2016

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9. Topic: Professionalism
Learning Objectives
The candidate will understand how to apply the standards of practice and guides to professional conduct.
Learning Outcomes
In general or given a context, the Candidate will be able to: <ol style="list-style-type: none">a) Apply the standards related to communications to plan sponsors and others with an interest in an actuary's results (i.e., participants, auditors, etc.)b) Explain and apply the Guides to Professional Conductc) Explain and apply relevant qualification standardsd) Demonstrate compliance with requirements regarding the actuary's responsibilities to the participants, plan sponsors, etc.e) Explain and apply all of the applicable standards of practice related to valuing retirement obligationsf) Recognize situations and actions that violate or compromise Standards or the Guides to Professional Conductg) Recommend a course of action to repair a violation of the Standards or the Guides to Professional Conduct
Resources
<ul style="list-style-type: none">• DA-139-15: ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations• DA-140-15: ASOP 27 - Selection of Economic Assumptions for Measuring Pension Obligations• DA-142-15: ASOP 4 - Measuring Pension Obligations• DA-146-15: ASOP 6 - Measuring Retiree Group Benefit Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions• DA-805-18: ASOP 23 - Data Quality (background only)• DA-806-18: ASOP 21 - Responding to or Assisting Auditors or Examiners in Connection with Financial Audits, Financial Reviews and Financial Examinations• DA-807-13: ASOP 44 - Selection and Use of Asset Valuation Methods for pension Valuations• DA-808-17: ASOP 34 - Actuarial Practice Concerning Retirement Plan Benefits in Domestic Relations Actions, pp. 1-16• DA-809-13: ASOP 41 - Actuarial Communications• Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States• AAA Code of Professional Conduct• SOA Code of Professional Conduct• AAA Qualification Standards