

# Exam Content Outline

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## Purpose

The aim of the American Council on Exercise® (ACE®) Medical Exercise Specialist Certification examination is to evaluate if individuals have the knowledge and skills necessary to perform tasks that are critical for safe and competent practice as ACE Certified Medical Exercise Specialists. To ensure the ACE Medical Exercise Specialist Certification stays relevant and current, ACE conducts a role delineation study (RDS) every five to seven years to update the composition and focus of the ACE Medical Exercise Specialist Certification program and exams.

In February 2020, ACE and Scantron Corporation, a testing service company that designs, develops, administers, and evaluates certification and licensure programs and examinations, conducted an RDS for the ACE Medical Exercise Specialist Certification to identify the primary job tasks performed by medical exercise specialists on a regular basis. The fundamental purpose of this RDS was to establish and validate appropriate content areas for the ACE Medical Exercise Specialist Certification examination. The result of this process includes this exam content outline, which serves as a blueprint for each ACE Medical Exercise Specialist Certification examination. As you prepare for the exam, it is important to remember that all exam questions are based on this outline.

The blueprint is comprised of tasks, knowledge, and skills necessary for a medical exercise specialist to perform job responsibilities at the entry level of competence for the profession. These tasks, knowledge, and skills were established by the RDS panel of medical exercise subject matter experts, and then sent out to all ACE Certified Medical Exercise Specialists for validation.

It is the position of ACE that the recommendations outlined here are not exhaustive to the qualifications of a medical exercise specialist, but represent a minimum level of proficiency and theoretical knowledge required to practice as a competent and safe certified medical exercise specialist. All tasks are assessed on every exam; however, it is important to note that not all knowledge and skill statements listed in the exam content outline will be addressed on each exam administration.

For the most up-to-date version of the Exam Content Outline, please [click here](#) and download a free PDF.

## Attention Exam Candidates!

When preparing for an ACE certification exam, be aware that the material presented in any textbook or course may become outdated due to the evolving nature of the health and not fitness industries, as well as new developments in current and ongoing research. These exams are based on an in-depth job analysis and an industry-wide validation survey. By design, these exams assess a candidate's knowledge and application of the most current scientifically based professional standards and guidelines. The dynamic nature of this field requires that ACE certification exams be regularly updated to ensure that they reflect the latest industry findings and research. Therefore, the knowledge and skills required to pass these exams are solely represented in any single text or course. ACE strongly encourages all exam candidates, exercise professionals, and health coaches to keep abreast of new developments, guidelines, and standards from a variety of valid industry sources.

## Description

The 2020 ACE Medical Exercise Specialist Certification role delineation study defined the task, knowledge, and skill statements in the current exam content outline. Tasks are the individual functions that are regularly performed and required for competent practice in a job or profession. Domains are the major areas of responsibilities or activities of a job or profession, and they represent the logical grouping of tasks.

Knowledge and skill statements list the knowledge and/or skills necessary to perform a given task. They include information, actions, or other learnable skills a candidate must possess in order to perform a specific task. An organized body of factual or procedural information is called knowledge, while the proficient physical, verbal, or mental interaction with, or guidance of, data, people, or objects is called skill.

The exam content outline for the ACE Medical Exercise Specialist Certification examination has 14 tasks grouped into four domains. Through the RDS process, each domain was assigned a weight that represents the approximate percentage of exam questions that will fall within that domain on each exam. The ACE Medical Exercise Specialist Certification exam content outline is presented below, with each domain and associated percentage weight, the tasks that fall within each domain, and the knowledge and skill statements that are associated with performing each task.

To learn more about registering for the ACE Medical Exercise Specialist examination, including eligibility requirements and ACE Certification Exam FAQs, please go to [www.ACEfitness.org/fitness-certifications/schedule-your-exam](http://www.ACEfitness.org/fitness-certifications/schedule-your-exam)

## DOMAIN I: ASSESSMENTS

26%

**TASK 1:** Gather health, exercise, and lifestyle information about the client using assessments such as interviews, questionnaires, journals, screenings, biometric measurements, and medical records, and communicate with other members of the healthcare team to formulate a useful understanding of the client.

### Knowledge of:

1. Interviewing, screening, and assessment tools and methods for gathering health, exercise, and lifestyle information
2. Key elements of health, exercise, and lifestyle evaluation (e.g., preparticipation screening, nutrition, physical activity, sleep, stress management, well-being, and social support)
3. Legal documentation (e.g., HIPAA, waivers, and physician releases)
4. Roles and responsibilities of the ACE CMES and other members of the healthcare team

### Skill in:

1. Selecting appropriate screening and assessment tools based on the client's health, exercise, and lifestyle
2. Administering evidence-based screenings and assessments (e.g., fitness and movement)
3. Interpreting evidence-based screening and assessment results (e.g., fitness and movement)
4. Using effective interviewing techniques
5. Collaborating with healthcare team members to exchange and manage the client's information appropriately

**TASK 2:** Evaluate the client’s health, exercise, and lifestyle information using industry guidelines and recommendations to determine appropriate assessments, programming, and referrals on an ongoing basis.

**Knowledge of:**

1. Industry guidelines and recommendations for identifying adverse health signs and symptoms and associated risks
2. Normative standards for interpreting screening and assessment results
3. Implications of findings from the client’s screenings and assessments for safe and appropriate exercise and health-related program design
4. Health, exercise, and lifestyle conditions and situations requiring medical release or referral
5. Contraindications for exercise participation associated with different health conditions

**Skill in:**

1. Identifying adverse health (e.g., physical, mental, and emotional) signs and symptoms that impede the client’s participation in exercise
2. Recognizing the need to gather additional information
3. Discerning the need for medical clearance or referral
4. Interpreting screening and assessment results (e.g., physical, mental, social, and readiness for change)

**TASK 3:** Collaborate with the client to establish goals using the client’s health, exercise, and lifestyle information.

**Knowledge of:**

1. Goal-setting methods (e.g., SMART)
2. Goal-setting types (e.g., outcome, process, and performance)
3. Effective communication strategies and styles
4. Relationships between goal setting and client expectations and limitations

**Skill in:**

1. Selecting appropriate goal-setting methods (e.g., SMART)
2. Selecting appropriate goal-setting types (e.g., outcome, process, and performance)
3. Interpreting recommendations from the client’s healthcare team regarding health, exercise, and lifestyle
4. Collaborating with the client to formulate appropriate goals

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## DOMAIN II: PROGRAM DESIGN, IMPLEMENTATION, & MODIFICATION

### 33%

**TASK 1:** Design safe and appropriate exercise and lifestyle programs using the client’s goals, assessment results, healthcare team recommendations, and industry guidelines to improve function, health, fitness, and/or performance.

**Knowledge of:**

1. Principles of program design (e.g., specificity, overload, rest and recovery, progression, volume, and periodization)
2. Evidence-based health, exercise, nutrition, and lifestyle standards and guidelines (e.g., American College of Sports Medicine, American College of Obstetricians and Gynecologists, American Diabetics Association, Academy of Nutrition and Dietetics, American Heart Association) for diseases, disorders, and conditions
3. Health risk factors and their implications for program design
4. Pathophysiology of diseases, disorders, and conditions (e.g., etiology, prevention, management, and treatment)
5. Medications that affect exercise response
6. Contraindications for exercise
7. Corrective exercise techniques and methods
8. Appropriate exercise progressions and regressions for clients with diseases, disorders, and conditions
9. Psychological impact of acute and chronic diseases, disorders, and conditions

**Skill in:**

1. Selecting appropriate health, exercise, and lifestyle programming for the client based on assessment results
2. Prioritizing program elements (e.g., functional movement, muscular training, cardiorespiratory training, recovery, and lifestyle)
3. Providing appropriate health and nutrition education within the ACE CMES scope of practice

**TASK 2: Implement exercise and lifestyle programs through safe and effective exercise instruction, education, and coaching to optimize outcomes, while monitoring risks, diseases, disorders, and conditions.**

**Knowledge of:**

1. Exercise modalities, tools, and safety considerations
2. Posture and common postural deviations
3. Movement patterns (e.g., single-leg, bend-and-lift, push, pull, and rotation)
4. Proper exercise techniques, including corrective exercise methods
5. Exercise progressions and regressions
6. Cueing and spotting techniques
7. Coaching techniques (e.g., communication strategies and styles, and feedback)
8. Health risk factors and their implications for program design
9. Methods for monitoring the client's response to exercise (e.g., heart rate and RPE)
10. Medications that affect physiological response to exercise
11. Contraindications for exercise participation associated with different health conditions

**Skill in:**

1. Using exercise modalities and tools safely and effectively
2. Recognizing postural deviations, poor exercise technique, and inefficient movements (e.g., gait and squat)

3. Leading clients through safe and effective exercises
4. Teaching the rationale supporting specific exercises and movement patterns
5. Providing constructive cues (e.g., kinesthetic awareness and feedback)
6. Using coaching strategies effectively
7. Using safe and effective spotting techniques
8. Identifying and responding to signs of fatigue, contraindications to exercise, and effects of medications on exercise
9. Encouraging the integration of healthy behaviors into the client's activities of daily living

**TASK 3: Modify the client's program and goals based on ongoing assessments, program adherence, information reported by the healthcare team, and client feedback to optimize outcomes.**

**Knowledge of:**

1. Principles of program design (e.g. specificity, overload, rest and recovery, progression, volume, and periodization)
2. Factors affecting program adherence (e.g., social determinants of health and health status)
3. Factors affecting program outcomes (e.g., FITT-VP, recovery, nutrition, and sleep)
4. Movement patterns (e.g., single-leg, bend-and-lift, push, pull, and rotation)
5. Proper exercise techniques, including corrective exercise methods
6. Exercise progressions and regressions
7. Behavior-change theories and strategies
8. Medications that affect the physiological response to exercise
9. Criteria for terminating exercise
10. Contraindications for exercise participation associated with different health conditions
11. Nutritional guidelines and dietary needs for special populations

**Skill in:**

1. Interpreting the results of ongoing assessments
2. Interpreting the client's self-monitoring data
3. Collaborating with the client to modify goals
4. Using the client's goals, assessments, and healthcare team recommendations to modify health, exercise, and lifestyle programs
5. Implementing appropriate exercise program modifications based on the client's responses to exercise participation
6. Identifying signs and symptoms for terminating exercise

**TASK 4: Recommend resources that complement the client's program based on ongoing assessments to optimize outcomes.**

**Knowledge of:**

1. Roles and responsibilities of members of the healthcare team
2. Community and professional resources to complement the client's program, including healthcare professionals for referrals when warranted

3. Medical protocols for the treatment of the client's diseases, disorders, and conditions
4. Standard medical and healthcare terminology
5. Factors affecting the client's health and well-being (e.g., social determinants of health)

**Skill in:**

1. Articulating the roles and responsibilities of the ACE CMES and other healthcare providers in the continuum of care
2. Identifying appropriate community resources and referrals
3. Maintaining detailed documentation of all referrals and related outcomes

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**DOMAIN III: COMMUNICATION AND BEHAVIOR CHANGE****23%**

**TASK 1:** Establish rapport with the client by using effective communication strategies in order to build and maintain collaborative relationships.

**Knowledge of:**

1. Communication strategies and styles
2. Personality types
3. Psychological factors associated with diseases, disorders, and conditions
4. Signs and symptoms of psychological distress
5. Learning styles
6. Interviewing techniques
7. Culture, diversity, inclusivity, beliefs, attitudes, and values on rapport building and behavior change

**Skill in:**

1. Identifying personality types and learning styles
2. Responding to personality types and learning styles appropriately
3. Using appropriate communication and coaching strategies
4. Using effective interviewing techniques
5. Identifying and appropriately responding to readiness for behavior change

**TASK 2:** Use appropriate communication skills and coaching strategies to promote sustainable healthy behavior change.

**Knowledge of:**

1. Evidence-based coaching strategies
2. Behavior-change theories, models, and strategies
3. Goal-setting methods and types
4. Personality types
5. Learning styles
6. Communication skills (e.g., active listening)
7. Forms and uses of feedback

**Skill in:**

1. Identifying the phase of behavior change currently exhibited by the client
2. Identifying opportunities, triggers, and barriers that affect program adherence
3. Supporting the client in overcoming barriers and preventing relapses
4. Identifying personality types and learning styles
5. Selecting and using teaching techniques that align with the client's learning style
6. Communicating effectively
7. Providing effective feedback

**TASK 3: Help the client build self-efficacy by identifying strengths, challenges, and available resources (e.g., social support and technology) to support the client in taking responsibility for ongoing personal health.**

**Knowledge of:**

1. Exercise modalities, tools, and safety considerations and their impact on the client's self-efficacy
2. Feedback techniques that build client self-efficacy
3. Factors affecting program adherence
4. Appropriate support systems, resources, and referral networks
5. Self-monitoring tools and their appropriate applications
6. How personality styles can affect self-efficacy
7. Behavior-change theories and strategies
8. Coaching, communication, and cueing techniques that promote self-efficacy and program adherence

**Skill in:**

1. Teaching the importance of health, exercise, and lifestyle program components for the management of diseases, disorders, and conditions
2. Helping the client implement a safe and effective exercise program
3. Identifying appropriate coaching strategies to promote self-efficacy
4. Supporting the client's efforts to build self-efficacy
5. Teaching the client to use self-monitoring data to manage health, exercise, and lifestyle choices
6. Helping the client identify and use appropriate support systems
7. Identifying the need for referral
8. Facilitating behavior change

**DOMAIN IV: PROFESSIONAL CONDUCT & RISK MANAGEMENT** 18%

**TASK 1:** Collaborate with the client, the client's caregivers, and the healthcare team consistent with the scope of practice for the ACE CMES and the roles and responsibilities of other professionals to promote effective client-centered care.

**Knowledge of:**

1. Culture, beliefs, attitudes, and values that influence lifestyle
2. How culture, diversity, inclusivity, beliefs, attitudes, and values influence health behaviors
3. Strategies for communicating professionally with the client, caregivers, and healthcare team
4. Roles and responsibilities of the client's healthcare team members, including caregivers
5. ACE CMES scope of practice

**Skill in:**

1. Creating an inclusive environment by developing awareness of and demonstrating sensitivity to diverse populations
2. Communicating respectfully and effectively with members of the healthcare team in the best interests of the client
3. Exchanging and managing client information with healthcare team members, including caregivers
4. Practicing within the ACE CMES scope of practice

**TASK 2:** Comply with applicable laws, regulations, industry guidelines, and the ACE Code of Ethics in order to protect the interests of all stakeholders and minimize risk.

**Knowledge of:**

1. Types and purpose of professional insurance
2. ACE Code of Ethics
3. ACE Professional Practices and Disciplinary Procedures
4. ACE CMES scope of practice
5. Federal, state, and local health and safety guidelines, standards, laws, and regulations (e.g., HIPAA, Americans with Disabilities Act as amended, and safe needle disposal)
6. Strategies and systems for protecting client confidentiality
7. Documentation and records maintenance policies and procedures (e.g., SOAP notes)
8. Standard medical and healthcare terminology

**Skill in:**

1. Protecting the client's confidential information
2. Practicing within the ACE CMES scope of practice
3. Complying with laws, regulations, guidelines, and best practices
4. Complying with the ACE Code of Ethics
5. Documenting and updating information in the appropriate format
6. Establishing and maintaining professional and personal boundaries with all stakeholders



**TASK 3:** Respond to acute medical conditions, adverse changes in physical and mental status, and emergency situations by following predetermined action plans in order to provide appropriate care and comply with risk-management practices.

**Knowledge of:**

1. Components of predetermined action plans
2. Emergency response procedures (e.g., first aid, CPR/AED)
3. Signs, symptoms, and risks associated with acute medical conditions, as well as adverse changes in physical and mental status
4. Criteria for terminating exercise

**Skill in:**

1. Recognizing when to refer the client to other healthcare team members or to initiate emergency services action plan
2. Managing risk and adverse incidents
3. Identifying signs, symptoms, and risks associated with adverse changes in physical and mental status
4. Responding to signs, symptoms, and risks associated with adverse changes in physical and mental status and emergency situations
5. Modifying the client's program when adverse changes in the client's physical and mental status do not require emergency response

**TASK 4:** Maintain competence by pursuing professional education to provide service consistent with accepted ACE CMES standards of care.

**Knowledge of:**

1. Evidence-based educational resources
2. Health and fitness trends
3. Guidelines and recommendations for health and fitness (e.g., American Heart Association, American College of Sports Medicine, Centers for Disease Control and Prevention, American College of Obstetrics and Gynecology, the U.S. Department of Health and Human Services)
4. Laws applicable to certified medical exercise specialists

**Skill in:**

1. Evaluating the credibility of educational and industry resources
2. Interpreting and applying research findings and education
3. Staying current regarding health and fitness trends, guidelines, recommendations, and applicable laws
4. Applying appropriate knowledge and skills obtained through continuing education and professional development

Note: HIPAA = Health Insurance Portability and Accountability Act; SMART = Specific, measurable, attainable, relevant, time-bound; RPE = Rating of perceived exertion; FITT-VP = Frequency, intensity, time, type, volume, progression; SOAP = Subjective, objective, assessment, plan; CPR = Cardiopulmonary resuscitation; AED = Automated external defibrillator