

ASCE GUIDELINES FOR ENGINEERING GRADES

	GRADE I	GRADE II	GRADE III
GENERAL CHARACTERISTICS	<ul style="list-style-type: none"> • Possesses foundational engineering concepts through undergraduate-level education. • Acquires basic knowledge and develops basic skills through mentored experience. • Applies learned knowledge and skills to perform assigned tasks. • Performs routine technical work which does not require previous experience. • Acknowledges and identifies the ethical and professional responsibilities of a civil engineer. 	<ul style="list-style-type: none"> • Acquires fundamental knowledge and develops skills in a specific practice area through mentored experience. • Applies standard techniques, procedures, and criteria to perform assigned tasks as part of a broader assignment. • Understands and complies with ethical codes. 	<ul style="list-style-type: none"> • Develops broad knowledge and skills in a specific practice area. • Evaluates, selects, and applies standard techniques, procedures, and criteria to perform a task or sequence of tasks for conventional projects with few complex features. • Collaboratively uses judgment to determine adaptations in methods for nonroutine aspects of assignments. • Applies principles of probability and statistics to determine risk relevant to civil engineering. • Values and applies ethical behavior in the practice of civil engineering.
TECHNICAL RESPONSIBILITIES	<ul style="list-style-type: none"> • Collects data and gathers information or documents. • Participates in laboratory testing and field investigations. • Performs basic computations or analysis. • Assists with preparation of engineering deliverables. • Observes construction activities. 	<ul style="list-style-type: none"> • Performs basic design tasks. • Assists on tasks such as: field activities, material testing, CADD work, permit applications, and report writing. 	<ul style="list-style-type: none"> • Performs moderate design tasks. • Prepares portions of plans, specifications, and other project documents. • Performs research and field investigation.
PROGRAM, PROJECT, AND TASK MANAGEMENT	<ul style="list-style-type: none"> • Responsible for personal task management and adherence to deadlines and scope. • No managerial responsibilities at this level. 		<ul style="list-style-type: none"> • Works as a part of a team and coordinates work with others. • Assists in determining schedule and budget requirements.
MANAGEMENT, SUPERVISION, AND GUIDANCE	<ul style="list-style-type: none"> • Receives close supervision on all aspects of assignments. • Attains mentored experience from a licensed civil engineer. 	<ul style="list-style-type: none"> • Receives close supervision on most aspects of assignments, particularly on difficult problems, and a general review of all aspects of work. • Attains mentored experience from a licensed civil engineer. 	<ul style="list-style-type: none"> • Receives instruction on specific objectives. • Receives direction on unconventional and/or complex problems and possible solutions. • Receives a thorough review of completed work for the application of sound professional judgment. • Attains mentored experience from a licensed civil engineer typically in their specialty.
COMMUNICATION, TEAMWORK, AND LEADERSHIP	<ul style="list-style-type: none"> • Possesses basic oral and written communication skills. • Identifies and acknowledges principles of teamwork and leadership, including justice, equity, diversity, and inclusion. • Interacts primarily with internal project team members. 	<ul style="list-style-type: none"> • Possesses basic oral and written communication skills. • Explains and practices basic principles of formal/informal communication, teamwork, and leadership, including justice, equity, diversity, and inclusion. • Practices professionalism and respectful inclusion in the workplace. • Engages in few project stakeholder interactions. 	<ul style="list-style-type: none"> • Possesses effective oral and written communication skills. • Demonstrates assertiveness and cooperation in managing conflicts. • Interacts with internal and external project team members. • Assists with official communication pertaining to specific assignments/meetings.
TYPICAL TITLES	<ul style="list-style-type: none"> • Intern/Co-Op, Engineering/Professional Trainee, Student Assistant 	<ul style="list-style-type: none"> • Engineering Intern/Engineer-in-Training, Designer, Engineering Associate, Analyst 	
EXPERIENCE	<ul style="list-style-type: none"> • 0+ years 	<ul style="list-style-type: none"> • 0+ years 	<ul style="list-style-type: none"> • 2+ years
EDUCATION	<ul style="list-style-type: none"> • Enrolled in an ABET/EAC-accredited bachelor's degree program in engineering. 	<ul style="list-style-type: none"> • Bachelor's degree in engineering from an ABET/EAC-accredited program • Master's degree or equivalent (optional) 	
LICENSURE AND CERTIFICATION	<ul style="list-style-type: none"> • Engineering Intern/Engineer-in-Training (optional) 	<ul style="list-style-type: none"> • Engineering Intern/Engineer-in-Training 	
PROFESSIONAL ACTIVITIES	<ul style="list-style-type: none"> • Student member of professional practice organization. • Participates in technical student competition teams. 	<ul style="list-style-type: none"> • Member of professional practice organization. 	<ul style="list-style-type: none"> • Member of professional practice organization. • Member of local program or committee.
COMMUNITY ACTIVITIES	Involved in outreach activities with community service organizations.		
EQUIVALENT FEDERAL GENERAL SCHEDULE (GS)	<ul style="list-style-type: none"> • GS-3 to GS-4 	<ul style="list-style-type: none"> • GS-5 to GS-7 	<ul style="list-style-type: none"> • GS-8 to GS-10

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	GRADE IV	GRADE V	GRADE VI
GENERAL CHARACTERISTICS	<ul style="list-style-type: none"> Applies broad knowledge of principles and practices in a specific practice area. Independently evaluates, selects, and adapts standard techniques, procedures, and criteria. May act in responsible charge of projects. Acquires general knowledge of principles and practices of related fields, and ability to function on multidisciplinary teams. Applies leadership and teamwork skills to effectively plan, execute, and manage scopes, schedules, and budgets to meet project stakeholder needs. 	<ul style="list-style-type: none"> Independently applies extensive and diverse knowledge of principles and practices in broad areas of assignments and related fields. Modifies or extends accepted theories and practices of civil engineering to complete assignments. Acts in responsible charge of projects. Leads tasks and projects of moderately complex scopes. Develops plans, specifications, and other project documents. Selects appropriate principles of engineering economics, and probability and statistics to analyze risk in a complex civil engineering problem. 	<ul style="list-style-type: none"> Applies thorough knowledge of current principles and practices of engineering related to the variety of aspects affecting their organization. Applies progressively acquired expertise to resolve crucial issues and/or unique conditions. Keeps informed of new methods and developments affecting their organization and recommends new practices or changes in emphasis of programs. Leads programs of moderate complexity and scope or leads a major project. Analyzes complex problems across specialty areas appropriate to the practice of civil engineering. Analyzes ethical dilemmas to determine appropriate courses of action.
TECHNICAL RESPONSIBILITIES	<ul style="list-style-type: none"> Designs a complete project, system, component, or process. Prepares complete plans, specifications, and other project documents. Designs and conducts investigations. Analyzes and interprets test data. 	<ul style="list-style-type: none"> Develops and reviews complete project documents for conformity and quality assurance. Typically, in responsible charge of projects. Keeps informed of updates to standards, regulations, and best practices. Analyzes complex civil engineering projects to determine design requirements, uncertainties, and constraints. Acknowledges and applies concepts of sustainability to civil engineering projects. 	<ul style="list-style-type: none"> Serves as the technical advisor for the organization in the application of advanced concepts and methods in an assigned area. Keeps informed of new developments and requirements affecting the organization for the purpose of recommending changes in programs or applications. Develops new techniques and/or improved processes, materials, or products. Values and analyzes sustainable performance of complex civil engineering projects from a systems perspective.
PROGRAM, PROJECT, AND TASK MANAGEMENT	<ul style="list-style-type: none"> Assigns tasks to and directs other technical and non-technical staff. Plans and coordinates detailed aspects of the engineering work. Prepares scopes, budgets, and schedules for assignments. Assists with proposals to provide professional services or obtain funding for engineering projects or programs. 	<ul style="list-style-type: none"> Develops workplans with resource-loaded schedules, scopes, and budgets. Performs basic schedule analysis and assessment of project risks. Supervises all staff necessary to complete assignments. Reviews and approves scopes, budgets, and schedules for assignments. Prepares proposals to provide professional services or obtain funding for engineering projects/programs. 	<ul style="list-style-type: none"> Supervises a staff of engineers and technicians. Plans, schedules, and coordinates the preparation of documents or activities for multiple major projects, or is responsible for an entire program of an organization. Analyzes project management plans for complex civil engineering projects. Understands project delivery uncertainties and uses risk management principles to address them. Reviews operational procedures to ensure compliance with applicable policies and performance measures.
MANAGEMENT, SUPERVISION, AND GUIDANCE	<ul style="list-style-type: none"> Receives general direction on key objectives. Receives guidance, when necessary, on unconventional/complex problems, direction on modified techniques, and new approaches on assignments with conflicting criteria. Assists with mentored experience to direct reports and junior staff through providing guidance, explaining professional responsibilities, and reviewing work products. Attends project meetings and presents specific aspects of engineering assignments. 	<ul style="list-style-type: none"> Receives supervision and guidance relating to overall objectives, critical issues, new concepts, and policy matters. Receives direction on unusual conditions and developments. Supervises mentored experience to direct reports and other engineers. Demonstrates professional attitudes relevant to the practice of civil engineering, including creativity, curiosity, flexibility, and dependability. 	<ul style="list-style-type: none"> Receives administrative supervision with assignments given in terms of broad general objectives and limits. Provides continued mentored experience to senior staff. Integrates professional attitudes relevant to the practice of civil engineering and fosters creativity, curiosity, flexibility, and dependability in staff.
COMMUNICATION, TEAMWORK, AND LEADERSHIP	<ul style="list-style-type: none"> Communicates effectively to both technical and nontechnical audiences. Demonstrates empathy and critical listening skills. 	<ul style="list-style-type: none"> Possesses advanced oral and written communication skills, including interpretation of complex technical and contractual language. Considers the needs of diverse project stakeholders. Leads project meetings and represents the organization in communications pertaining to broad aspects of engineering assignments. Analyzes and selects principles of formal communication, effective teamwork, and various pathways to developing leadership. Sustains a diverse and inclusive team culture. 	<ul style="list-style-type: none"> Applies principles of formal strategic and persuasive communications. Represents their area of specialty within the organization and liaises with related individuals and organizations. Routinely interacts with organizational leaders, clients, officials, contractors, and others. Integrates concepts of effective teamwork and leadership, including justice, equity, diversity, and inclusion, and advocates for application of these concepts. Considers social equity and environmental impact of engineering decisions.
TYPICAL TITLES	<ul style="list-style-type: none"> Civil Engineer, Associate Engineer, Project Engineer, Resident Engineer, Assistant Professor 	<ul style="list-style-type: none"> Senior Engineer, Project Manager, Associate Professor 	<ul style="list-style-type: none"> Principal Engineer, District Engineer, Engineering Manager, Professor
EXPERIENCE	<ul style="list-style-type: none"> 4+ years 	<ul style="list-style-type: none"> 8+ years 	<ul style="list-style-type: none"> 10+ years
EDUCATION	<ul style="list-style-type: none"> Bachelor's Degree in engineering from an ABET/EAC-accredited program. Master's degree or equivalent. Engaged in lifelong learning to maintain knowledge of contemporary issues. Doctorate for faculty. 		
LICENSURE AND CERTIFICATION	<ul style="list-style-type: none"> Professional Engineer, Professional Certification 		
PROFESSIONAL ACTIVITIES	<ul style="list-style-type: none"> Member of professional practice organization Chair of local program or committee. 	<ul style="list-style-type: none"> Member of professional practice organization. National board member, or officer. National technical or policy committee member. 	
COMMUNITY ACTIVITIES	<ul style="list-style-type: none"> Organizes and leads community service programs. 		
EQUIVALENT FEDERAL GENERAL SCHEDULE (GS)	<ul style="list-style-type: none"> GS-11 	<ul style="list-style-type: none"> GS-12 	<ul style="list-style-type: none"> GS-13

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	GRADE VII	GRADE VIII
GENERAL CHARACTERISTICS	<ul style="list-style-type: none"> • Uses creativity, foresight, and mature judgment to anticipate and solve new problems. • Makes authoritative decisions and recommendations that impact organizational activities and culture. • Sets priorities and reconciles directions from competing interests. • Leads programs with complex features with work performed directly, or by others. • Integrates engineering economics and risk analysis into the solutions of complex civil engineering problems. • Integrates solutions to complex problems across specialty areas. • Demonstrates ethical leadership, behavior, and decision making. 	<ul style="list-style-type: none"> • Makes decisions with broad influence on activities of their organizations. • Makes authoritative decisions and recommendations that are conclusive and have a far-reaching impact on the organization and the industry. • Demonstrates a high degree of creativity, foresight, and mature judgment in planning, organizing, and guiding programs and activities of major consequence. • Provides leadership, and develops and engages others to create a common vision for their programs and the organization. • Assesses the acceptability of engineering economic analyses and the risks associated with solutions to complex civil engineering problems. • Evaluates solutions to complex problems that involve multiple specialty areas of civil engineering. • Advocates for ethical behavior in the practice of civil engineering and assesses courses of resolution to ethical dilemmas in complicated situations.
TECHNICAL RESPONSIBILITIES	<ul style="list-style-type: none"> • Develops standards and guidelines. • Leads a program in the organization in their area of specialization. • Develops appropriate design alternatives for complex civil engineering projects that consider realistic requirements, constraints, community input, permitting, and other regulatory constraints. • Integrates advanced concepts, including sustainability, to solve complex problems. 	<ul style="list-style-type: none"> • Performs advisory or consulting work for the organization across broad program areas or within a specialized area with innovative/complex aspects. • Assesses practices and requirements to achieve sustainable performance of complex civil engineering projects from a systems perspective.
PROGRAM, PROJECT, AND TASK MANAGEMENT	<ul style="list-style-type: none"> • Supervises a major organizational segment or several teams. • Recommends facilities, personnel, and funds required to carry out programs. • Oversees technical, legal, and financial issues of an entire program. • Integrates these components into a complete project management plan for a complex civil engineering project. • Implements effective teamwork, leadership, and justice, equity, diversity, and inclusion principles into solutions for engineering problems. • Determines program objectives and requirements. • Develops organizational policies and procedures. 	<ul style="list-style-type: none"> • Leads an entire program of critical importance. • Develops programs needed for accomplishing the objectives of the organization. • Evaluates project management plans for complex civil engineering projects. • Develops risk mitigation plans to address project risks. • Evaluates effectiveness of leaders and teams while advancing concepts of justice, equity, diversity, and inclusion in the solutions of civil engineering problems. • Advocates for teamwork, leadership, diversity, and inclusion within the organization.
MANAGEMENT, SUPERVISION, AND GUIDANCE	<ul style="list-style-type: none"> • Receives administrative supervision with assignments given in terms of broad general objectives and limits. • Implements staff development plans within their organizational segment, including technical, management, and leadership skills. • Advocates for and establishes professional attitudes within the organization. • Evaluates the effectiveness of leaders and teams, and their understanding and application of concepts of justice, equity, diversity, and inclusion. 	<ul style="list-style-type: none"> • Receives general administrative direction from a board of directors or regional council. • Develops organizational strategy for staff development through mentored experience, continuing education, and self-development. • Instills and fosters professional attitudes within the organization. • Sets organizational policy to develop leadership skills of others, to improve teamwork, and to advance justice, equity, diversity, and inclusion programs.
COMMUNICATION, TEAMWORK, AND LEADERSHIP	<ul style="list-style-type: none"> • Possesses exceptional oral and written communication skills, including negotiation of critical issues. • Integrates different forms of effective and persuasive communication to technical and nontechnical audiences. • Demonstrates financial acumen and familiarity with legal issues related to engineering practice. • Initiates and maintains extensive contacts with key engineers and officials, or other organizations and companies. • Promotes justice, diversity, equity, and inclusion within their organizational segment. • Communications are characterized as strategic interactions between stakeholders with mutual awareness and interests. 	<ul style="list-style-type: none"> • Negotiates critical and controversial issues with leadership of other organizations. • Represents their organization at important functions or conferences, including media interviews as required. • Leads conversations that shape public, environmental, and infrastructure policy. • Champions justice, diversity, equity, and inclusion within the organization and the communities in which they work.
TYPICAL TITLES	<ul style="list-style-type: none"> • Director, Program Manager, City Engineer, County Engineer, Division Engineer, Department Head, Vice President 	<ul style="list-style-type: none"> • Bureau Engineer, Director of Public Works, Dean, President
EXPERIENCE	<ul style="list-style-type: none"> • 15+ years 	<ul style="list-style-type: none"> • 20+ years
EDUCATION	<ul style="list-style-type: none"> • Bachelor's Degree in engineering from an ABET/EAC-accredited program. • Master's degree or equivalent. • Engaged in lifelong learning to maintain knowledge of contemporary issues. • Doctorate for faculty 	
LICENSURE AND CERTIFICATION	<ul style="list-style-type: none"> • Professional Engineer, Specialty Certification 	
PROFESSIONAL ACTIVITIES	<ul style="list-style-type: none"> • Member of professional practice organization, national board member, or officer. • Recognized expert on statewide activity. • Resource for national activities and organizations. 	<ul style="list-style-type: none"> • Member of professional practice organization. • Recognized expert on national activity or spokesperson for the profession.
COMMUNITY ACTIVITIES	<ul style="list-style-type: none"> • Serves on local planning or policy boards. 	<ul style="list-style-type: none"> • Serves on state or national boards.
EQUIVALENT FEDERAL GENERAL SCHEDULE (GS)	<ul style="list-style-type: none"> • GS-14 	<ul style="list-style-type: none"> • GS-15, Senior Executive Service (SES)