

Industry skills expectations for new and experienced graduates (shortened example 1)

[TUTORS NOTE. The information presented below can be used to acquaint undergraduates or postgraduates with the types and levels of skills employers expect in graduates and therefore the types and levels of skills and attitudes they should aspire to acquire during the course. It may be helpful for students to discuss their interpretation and understanding of some of the descriptors used.

This is a shortened version of an original appraisal scheme. In the full version many of the items are subdivided and give a fuller idea of what is required. The full version is available [HERE.](#)

Industries have expectations that both new and experienced graduates will possess certain attributes and be able to use important skills. These abilities will be subject to the normal appraisal process used to assess the performance of graduates in post. There are, of course, a number of different assessment/appraisal schemes in use which have been developed and are used in particular companies. The material set out below derives mainly from the pharmaceutical industry and outlines some of the typical features and criteria which are used in such schemes.

Graduates are not expected to achieve the same level with respect to each skill. For example, normal graduate performance in scientific / technical areas would be level 3 or 4 while only level 1 would be expected with regard to leadership.

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1. Scientific / Technical Skills

These involve:

technical expertise in maintaining, building and applying in-depth understanding of the concepts, techniques and knowledge associated with disciplines, to current challenges and issues;
rigour / discipline in paying attention to details of procedures, methods, plans, etc., to ensure completeness, to maintain high quality, to eliminate mistakes and errors.

LEVEL 3: Is skilled and independent at technical skills

Demonstrates precision and accuracy in their work
Can optimise parameters to improve an existing method
Analyses and reports data accurately and appropriately
Develops and maintains technical skills
Demonstrates sufficient cross-functional awareness to allow constructive interaction with customers

LEVEL 4: Modifies, designs and applies technical and scientific skills to advance project

Modifies and optimises existing laboratory procedures
Appropriately handles data / information
Sets up and evaluates complex established methods and techniques
Reads, understands and applies appropriate literature knowledge in related area
Designs and implements own experiments
Interprets data appropriately
Follows standard procedures to minimise errors or unnecessary risks despite time and resource pressures
Acts as an expert resource for team
Sets up appropriate computer applications to improve efficiency
Applies appropriate statistical and mathematical analyses in making scientific interpretation
Contributes scientific expertise as a co-author

2. Problem Solving Skills

These involve:

systematic thinking (i.e. taking a logical and objective approach to analysing problems, organising work and planning activities), *conceptual thinking* (i.e. identifying key issues or structures in complex situations, in complex problems, or in areas outside immediate technical discipline) and *creativity* (i.e. generating and championing new ways to analyse problems, solve problems, or address problems).

LEVEL 3: Finds solutions for technical problems around experimental work

Uses step by step plans when beginning a project or addressing a problem
Anticipates and takes measures to eliminate potential problems
Prioritises activities based on implications for the problem as a whole
Evaluates established methods to find solutions
Coherently organises unstructured, complex, or voluminous information

LEVEL 4: Uses novel solutions and/or unprecedented methods to solve technical problems

Uses internal and external resources to find solution(s)
Acts as an unbiased resource for the assessment of proposals, findings, etc.
Able to prioritise and enact a prioritised sequence of problem solving events

3. Communication Skills

These involve:

providing information so that others can understand technical ideas or processes and *information networking* to systematically and continually optimise information resources needed for evaluating issues and making decisions

LEVEL 2: Communicates effectively within the team

Effectively presents own work to team

Communicates in a professional, respectful and appropriate manner

Can write a logical, clear and correct procedure

Displays good listening skills with varied groups

Contacts other departments as appropriate to ensure information is exchanged or services are provided

LEVEL 3: Displays concern for impact of communication

Presents results in formats that are readily understood

Understands audience needs and tailors delivery of information accordingly

Prepares clear reports

Accepts and gives constructive feedback to any team member

Provides useful and timely input during group discussions

Capable of effectively representing the team to make contact with other areas

4. Teamwork Skills

These involve:

collaborating with others toward a common goal and *mentoring* (personally supporting the development of others).

LEVEL 2: Shares information and resources with others, shares workload of the team and acts on constructive feedback

Supports team decisions and focuses work on agreed team priorities

Endeavours to fit in with the team

Respects confidentiality

Shares information, expertise, or resources with others

Shares in the workload of the team

Seeks, accepts and acts on constructive feedback

LEVEL 3 Contributes to the decision making and coaches individuals with developmental needs

Makes optimum use of group resources (e.g. common equipment, technical support)

Acknowledges the contributions of others and shares credit appropriately

Reaches beyond the individual assignment to assist in reaching team goals

Participates in team decision making

Has an optimistic outlook that contributes to team needs

Shows good communication with team members

Responds to changing priorities and unexpected demands

Approaches and coaches others when appropriate

5. Manage for Results Skills

These involve:

Achievement Orientation, energetically pursuing unique or distinctive and measurable accomplishments that involve the overcoming of obstacles, competition and the need for extended levels of effort; *Results/Resources Orientation*, modifying procedures, practices and priorities to optimise the use of resources and maximise the chances of success; *Concern for Standards*, pursuing excellence in line with the organisation's norms and values. Attaining the highest standards in every aspect of work - methods, systems, procedures and outcomes; and *Efficiency Orientation*, looking for the best use of resources. Focusing on the means by which outcomes are secured and on the optimum ratio of inputs to outputs

LEVEL 2: Keeps own activities aligned with delivering team results in a timely manner

Organises how to go about performing a specific task
Prioritises own work appropriately with guidance from supervisor
Regularly tracks personal progress against milestones or goals
Self disciplined when dealing with disagreeable tasks
Focuses on completing all planned responsibilities on time
Determines whether results have been achieved
Actively looks for opportunities to reduce wasted materials, time etc.
Takes action to ensure consistent application of procedures/systems
Knows the team objective
Strives to ensure own activities help the team meet objectives
Follows good meeting practices when participating in meetings

LEVEL 3: Searches for ways to improve delivery of own results aligned to team deliverables

Independently organises own schedule
Prioritises work appropriately, focuses on activities critical to the problem at hand
Makes sure that work and/or products are completed in an accurate and timely fashion
Sets own objectives (where appropriate)
Actively seeks ways of improving current methods, systems, processes and structures etc.
Organises and brings resources together to achieve an objective
Encourages others to link their actions to team objectives
Understands the priorities relevant to the team and how these fit the bigger picture
Operates effective meeting practice

6. Social Awareness Skills

These involve:

understanding others, sensing others' feelings and perspective, and taking an active interest in their concerns and *organisational awareness*, reading a group's emotional currents and power relationships

LEVEL 1: Understands the importance of other perspectives

Demonstrates ability to listen well and remains attentive to emotional cues

Able to sense changes in other people's mood or temperament

Asks questions to solicit other's perspectives

Promotes a friendly, co-operative climate

LEVEL 2: Demonstrates sensitivity to others

Exhibits consideration of the feelings of others before taking action

Treats each person as an individual based on observations of others' differing styles

Demonstrates sincere concern and interest for other people

Develops incidental relationships

Able to distinguish between the content of what is being said and the underlying emotions and concerns

7. Self-control Skills

These involve:

continuing to perform effectively in stressful and difficult circumstances

LEVEL 1: Understands need to control emotions

Takes accountability for own actions

Raises problems openly and without attacking others

Demonstrates good time management

Recognises how own feelings affect performance

Demonstrates the ability to control and filter emotions in a constructive way

8. Self Management Skills

These involve:

ability to learn, quickly understanding and applying information, concepts and strategies;

accurate self assessment, knowing one's strengths and limits and *self-development orientation*,

taking continuous action to improve personal capability

LEVEL 2: Seeks feedback and work-related knowledge

Seeks, accepts, and acts on constructive feedback

Seeks opportunity to build knowledge in work related areas

Quickly understands what new tasks / job requires

LEVEL 3: Regularly assesses own performance and strives for self-development

Reflects systematically on own performance and modifies behaviour accordingly
Quickly understands and uses processes, technologies and ideas that are continually being updated
Continually "scans" and applies developments in own discipline
Actively develops knowledge of how own job is affected by other areas and business issues
Displays confidence while taking on new responsibilities

9. Self Management Skills

These involve:

Adaptability, maintaining effectiveness in different situations, environments and cultures and
Change Catalyst, initiating or managing change

LEVEL 1: Adjusts own behavior to the environment

Behaves consistently with company values
Is effective when dealing with people from a variety of backgrounds
Implements changes after a suitable adjustment period
Recognises the need for change

LEVEL 2: Maintains effectiveness in different environments and periods of change

Adapts own style of interaction when dealing with individuals from different backgrounds or cultures
Is among the first to implement a requested change
Continues to perform effectively during periods of high ambiguity
Identifies situations in which a change in process or approach would improve efficiency

10. Leadership Skills

These involve:

Initiative, undertaking necessary activities without waiting for detailed instruction or guidance;
influence / persuasion, anticipating and addressing other's concerns or interests in ways that build their support for technical objectives; *technical leadership*, demonstrating a strong belief in one's own scientific vision, decisions, abilities and skills despite the resistance of others

LEVEL 2: Implements and completes tasks as a participant

Designs the simple "how" and collaborates on the complex "how" to perform an assigned task
Seeks to join and be involved
Demonstrates good self-esteem and confidence when dealing with people
Takes action to have an intended or desired effect on others