Competency	Bioinformatics user	Bioinformatics scientist	Boinformatics engineer
Examples of professionals in this role	Biocurator, physician, lab technician, ethicist	Computational biologist; molecular life scientist	Software developer, software engineer
(a1) Apply knowledge of computing appropriate to the discipline (e.g., effectively utilize bioinformatics tools).			
(a2) Apply knowledge of biology appropriate to the discipline.			
(b) Analyze a problem and identify and define the computing requirements appropriate to its solution (e.g., define algorithmic time and space complexities and hardware resources required to solve a problem).			
(cN/A) Use a computer-based system, process, component, or program to meet desired needs in scientific environments.			
(c2) Design and implement a computer-based system, process, component, or program to meet desired needs in scientific environments.			
(c3) Evaluate the abiliity of a computer-based system, process, component, or program to meet desired needs in scientific environments.			
(d) An ability to use current techniques, skills, and tools necessary for computational biology practice.			
(e) Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.			
(f) Apply design and development principles in the construction of software systems of varying complexity.			
(g) Function effectively in teams to accomplish a common goal.			
(h) Understand professional, ethical, legal, security, and social issues and responsibilities, and uphold these in the workplace as appropriate.			
(i) Communicate effectively with a range of audiences, including, but not limited to, other bioinformatics professionals			
(j) Analyze the local and global impact of bioinformatics and genomics on individuals, organizations, and society.			
(k) Engage in continuing professional development.			
(l) Detailed understanding of the scientific discovery process and of the role of bioinformatics in it.			
(m) Apply statistical research methods in the contexts of molecular biology, genomics, medical, and population genetics research.			
(n1) Knowledge of general biology, in-depth knowledge of at least one area of biology			
(n2) Understanding of biological data generation technologies.			
(o) Sufficient appreciation of computing and algorithms (including basic scripting and use of the command line) to make informed decisions on their suitablity to solve a research problem			
(p) Understand the limitations of bioinformatics tools			

N/A: no competency in this area required

Awareness: the professional appreciates what is possible in this area and how the area impacts on their own work

Working knowledge: the professional has a firm underpinning knowledgebase in this area and applies it effectively in his or her day-to-day work

Specialist knowledge: the professional actively contributes to advancement of the area, generating new understanding or new technology