

**Competency Statements: 01.0000 Agriculture, Agricultural Operations, and Related Sciences (2024)**

| AFNR Systems                                                                                                 | Animal Systems                                                                                                                                                                                             | Plant Systems                                                                                               | Natural Resource Systems                                                                              |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Summarize and apply the importance of health & safety standards in AFNR organizations and systems. <b>A1</b> | Analyze and describe animal origin and domestication according to their hierarchical taxonomy and agricultural use. <b>B1</b>                                                                              | Compare and describe agricultural plants based on properties, functions, and physiological needs. <b>C1</b> | Analyze and explain the connections within sustainable AFNR systems. <b>D1</b>                        |
| Examine and explain issues, regulations, and public policies impacting AFNR systems. <b>A2</b>               | Provide for the biosecurity of agricultural animals and prescribe and implement a prevention and treatment program for animal diseases, parasites and other disorders. <b>B2</b>                           | Demonstrate plant propagation techniques. <b>C2</b>                                                         | Describe natural resource stewardship which supports sustainable AFNR systems. <b>D2</b>              |
| Examine and explain the history, trends, and impact of AFNR on society. <b>A3</b>                            | Demonstrate safe animal handling and management techniques to meet producer, animal, consumer, and environmental needs. <b>B3</b>                                                                          | Develop and manage plant growth, media, and nutritional requirements. <b>C3</b>                             | Evaluate and develop solutions for AFNR impacts. <b>D3</b>                                            |
| Demonstrate knowledge of AFNR practices of marketing, business management & planning. <b>A4</b>              | Explain the anatomy and physiology systems of various animal species. <b>B4</b>                                                                                                                            | Develop and implement a plant management plan for crop and pest management. <b>C4</b>                       | Demonstrate knowledge of biochemical and cellular processes as they relate to AFNR systems. <b>D4</b> |
| Examine and explain careers in AFNR to match student interests to develop a career plan. <b>A5</b>           | Design a nutritional plan for a given animal with a clearly stated outcome and assess whether the nutritional requirements are being met by recording performance and comparing feed variations. <b>B5</b> | Demonstrate proper methods to harvest, handle, and store crops. <b>C5</b>                                   | Examine and explain environmental hazards to promote safety. <b>D5</b>                                |
| Demonstrate record keeping skills related to AFNR systems and technology. <b>A6</b>                          | Evaluate and select animals for reproduction according to breeding and production goals. <b>B6</b>                                                                                                         | Analyze and describe the interaction of plants and the environment. <b>C6</b>                               |                                                                                                       |

**Orange Font = PCC Competency Code**  
**(A1 = PCC A, Competency Statement 1)**

ly Practices are required for ALL Michigan Career and Technical Education programs (reformatted 2022-print one page, landscape)

| Problem Solving (PS)                                                                                                                          | Competency                 | Collaboration (CL)                                                                                                                                                      | Competency                 | Personal Management (PM)                                                                                                                                                    | Competency                 | Communication (CM)                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Demonstrate <u>problem solving skills</u> consistently and independently                                                                      | CL<br>Competency Statement | Demonstrate <u>collaboration skills</u> consistently and independently                                                                                                  | PM<br>Competency Statement | Demonstrate <u>personal management skills</u> consistently and independently                                                                                                | CM<br>Competency Statement | Demonstrate <u>communication skills</u> consistently and independently                                                        |
| Employ valid and reliable research strategies                                                                                                 | CL1<br>Standard            | Work productively in teams while using cultural global competence                                                                                                       | PM1<br>Standard            | Attend to personal health and financial well-being                                                                                                                          | CM1<br>Standard            | Communicate clearly and effectively and with reason                                                                           |
| Evaluate validity of sources                                                                                                                  | CL1A                       | Contribute to every team, whether formal or informal                                                                                                                    | PM1A                       | Understand the relationship between personal health, workplace performance and personal well being                                                                          | CM1A                       | Communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods                |
| Use an informed process to research new information and test new ideas and practices                                                          | CL1B                       | Apply awareness of cultural differences to avoid barriers to productive and positive interaction                                                                        | PM1B                       | Act on an understanding to regularly practice healthy diet, exercise, and mental health activities                                                                          | CM1B                       | Communicate in the workplace with clarity and purpose to make maximum use of your own and others' time                        |
| Discern accepting and using information to make informed decisions                                                                            | CL1C                       | Increase the engagement and contribution of all team members                                                                                                            | PM1C                       | Take regular action to contribute to personal financial well-being                                                                                                          | CM1C                       | Write master conventions, word choice and organization, and use effective tone and presentation skills to articulate ideas    |
| Consider the environmental, social and economic impacts of decisions                                                                          | CL1D                       | Plan and facilitate effective team meetings (in person and virtual)                                                                                                     | PM1D                       | Recognize that personal financial security provides the peace of mind required to contribute more fully to career success                                                   | CM1D                       | Interact with others; actively listen and speak clearly and with purpose                                                      |
| Understand the interrelated nature of actions and their impact                                                                                | CL2<br>Standard            | Act as a responsible and contributing citizen and employee                                                                                                              | PM2<br>Standard            | Plan education and career paths aligned to personal goals                                                                                                                   | CM1E                       | Consider the audience for all communications and prepare accordingly to ensure the desired outcome                            |
| Make decisions that positively impact or mitigate negative impact on the environment and others                                               | CL2A                       | Understand the obligations and responsibilities of being a member of a community and demonstrate this understanding through interactions with others                    | PM2A                       | Take personal ownership of educational goals and career goals and regularly act on a plan to attain these goals                                                             | CM2<br>Standard            | Use technology to enhance productivity                                                                                        |
| Be aware of new resources, procedures, technologies, and materials and their impact on the environment, social condition and the organization | CL2B                       | Be conscientious of the impact of decisions on others and the environment                                                                                               | PM2B                       | Understand personal interests, preferences, and goals                                                                                                                       | CM2A                       | Maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems       |
| Utilize critical thinking to make sense of problems & persevere in solving them                                                               | CL2C                       | Identify the near-term and long-term consequences of actions and seeking to act in ways that contribute to the betterment of the team, family, community, and workplace | PM2C                       | Display perspective regarding the career pathways available and the time, effort, experience, and other requirements to pursue each, including the path of entrepreneurship | CM2B                       | Flexible and adaptive in acquiring and using new technology                                                                   |
| Recognize problems in the workplace, understanding the nature of the problem and devising effective plans to solve the problem                | CL2D                       | Be reliable and consistent in going beyond the minimum expectations and participating in activities that serve the greater good                                         | PM2D                       | Recognize the value of each step in the educational and experiential process                                                                                                | CM2C                       | Proficient with ubiquitous technology applications                                                                            |
| Recognize problems as they occur and take action to quickly address the problem                                                               | CL3<br>Standard            | Model integrity, ethical leadership and effective management                                                                                                            | PM2E                       | Recognize that nearly all career paths require ongoing education and experience                                                                                             | CM2D                       | Understand and take actions to prevent or mitigate inherent risks of technology applications both personal and organizational |
| Investigate the root cause of the problem prior to introducing solutions                                                                      | CL3A                       | Consistently act in ways that align to personal and community-held ideals and principles                                                                                | PM2F                       | Seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals                                                            |                            |                                                                                                                               |
| Carefully consider the options to solve the problem                                                                                           | CL3B                       | Employ strategies to positively influence others in the workplace                                                                                                       |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Follow through with the agreed upon solution to ensure the problem is solved, either by your own actions or that of others                    | CL3C                       | Understand integrity and act on this understanding in every decision                                                                                                    |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Demonstrate creativity and innovation                                                                                                         | CL3D                       | Use a variety of means to positively impact the direction and actions of a team or organization                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Regularly think of ideas that solve problems in new and different ways                                                                        | CL3E                       | Apply insights into human behavior to change others' actions, attitudes and/or beliefs                                                                                  |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Contribute ideas in a useful and productive manner to improve the organization                                                                | CL3F                       | Recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morale, and organizational culture                      |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Consider unconventional ideas and suggestions as solutions to issues, tasks or problems and distinguish which ideas will add greatest value   |                            |                                                                                                                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Seek new methods, practices and ideas from a variety of sources and seek to apply those ideas to the workplace                                |                            |                                                                                                                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Take action on ideas and understand how to bring innovation to an organization                                                                |                            |                                                                                                                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Apply appropriate academic and technical skills                                                                                               |                            |                                                                                                                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Use knowledge and skills to be productive                                                                                                     |                            |                                                                                                                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Make connections between abstract concepts and real-world applications                                                                        |                            |                                                                                                                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |
| Make correct insights and apply academic skills in the workplace as appropriate                                                               |                            |                                                                                                                                                                         |                            |                                                                                                                                                                             |                            |                                                                                                                               |

COLOR KEY

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| <b>Problem Solving (PS) Standards</b><br>PS1, PS2, PS3, PS4, PS5                 |
| <b>PS Performance Indicators:</b><br>PS1A-1C, PS2A-2C, PS3A-3E, PS4A-4E, PS5A-5C |
| <b>Collaboration (CL) Standards</b><br>CL1, CL2, CL3                             |
| <b>CL Performance Indicators:</b><br>CL1A-1E, CL2A-2D, CL3A-3E                   |
| <b>Personal Management (PM) Standards</b><br>PM1, PM2                            |
| <b>PM Performance Indicators:</b><br>PM1A-1E, and PM2A-2E                        |
| <b>Communication (CM) Standards</b><br>CM1, CM2                                  |
| <b>CM Performance Indicators:</b><br>CM1A-1E, CM2A-2D                            |

Source:

<https://careertech.org/career-ready-practices>