**Content Expert Report**

**Mathematics Education**

**(05-17)**

Education Standards and Practices Board

**Program report status** (check one)**:**

**Initial review  Continuing Review  Focus Visit**

|  |  |
| --- | --- |
| **Name of Content Expert:** |  |
| **Content Expert Telephone:** |  |
| **Content Expert Email:** |  |
| **Date Submitted:** |  |
| **Institution Being Evaluated:** |  |
| **Program Being Evaluated:** |  |
| **Degree:** |  |
| **Grade Level(s):** |  |

**Is this program offered at more than one site?**  **Yes**  **No**

If yes, list sites where the program is offered:

**Summary of Recommendations**

After completing your review, for each sub-standard listed below, place a check under the column that matches your decision.

|  |  |  |  |
| --- | --- | --- | --- |
| **Standard** | **Met** | **Met With Weakness** | **Not Met** |
| **11010.1** |  |  |  |
| **11010.2** |  |  |  |
| **11010.3** |  |  |  |
| **11010.4** |  |  |  |
| **11010.5** |  |  |  |
| **11010.6** |  |  |  |
| **11010.7** |  |  |  |

**Mathematics Education**

**Directions:** Please read the Content Area Report (CAR) supplied by the institution.

1. Review program’s response to Section II.1 Areas of Weakness from Prior Review. For each standard in which there was a weakness from the prior review, make a recommendation as to whether that weakness should be removed or retained. If it is to be retained provide a rationale for retaining it in Part I.B. If it has been partially but not fully addressed restate the weakness in Part I. C and provide a rationale.
2. Make a recommendation for each program standard as to whether it has been met, met with weakness, or not met based on the evidence provided. For any standard “met with weakness” or “not met” identify the weakness(es) and provide a rationale.

**Part I: Areas of Weakness from Prior Review \*\*\***

**XXXXX.X** *Write the standard and the original weakness here.*

A. **Content Expert Decision**: Should the weakness be removed, retained, or restated and retained? Check one only.

     Weakness Should Be Removed      Weakness Should Be Retained

     Restated Weakness

B. **For Decisions of “Weakness Should Be Retained”:** Provide a rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs.

i. **Rationale:**

C. **For Decisions of “Restated Weakness”:** Write the new language for the weakness. Provide a rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs.

1. **Restated Weakness:**

ii. **Rationale:**

***\*\*\*Note: This template can be copied and pasted into the document multiple times when more than one area of weakness was cited in a prior review.***

**Part II Program Standard Recommendations**

**11010.1 Mathematical Practices and Processes** The program requires the candidate to demonstrate the following:

a. makes sense of problems and perseveres solving them

b. reasons abstractly and quantitatively

c. constructs viable arguments and proofs

d. critiques the reasoning of others

e. uses mathematical models

f. attends to precision

g. identifies elements of structure

h. engages in mathematical communication

A. **Content Expert Decision**: Is the program standard met, met with weakness, or not met?

     Met       Met with Weakness      Not Met

B. **For Decisions of “Met with Weakness” or “Not Met”:** Describe the specific weakness identified and the rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs.

i. **Weaknesses:**

ii. **Rationale:**

**11010.2 Mathematical Connections** The program requires the teacher candidate to demonstrate the interconnectedness of mathematical ideas and how they build on one another. The candidate recognizes and applies connections among mathematical ideas and across various content areas as well as real-world contexts, using the language of mathematics to express ideas precisely, both orally and in writing to multiple audiences**.**

A. **Content Expert Decision**: Is the sub-standard met, met with weakness, or not met?

     Met       Met with Weakness      Not Met

B. **For Decisions of “Met with Weakness” or “Not Met”:** Describe the specific weakness identified and the rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs.

i. **Weaknesses:**

ii. **Rationale:**

**11010.3 Secondary School Content Knowledge** The program requires the teacher candidate to demonstrate and applies knowledge of secondary mathematics concepts, algorithms, procedures, applications in varied contexts, and connections within and among mathematical domains (Complex Number System, Algebra,Geometry, Trigonometry, Statistics, Probability, Calculus, and Discrete Mathematics)

A. **Content Expert Decision**: Is the sub-standard met, met with weakness, or not met?

     Met      Met with Weakness      Not Met

B. **For Decisions of “Met with Weakness” or “Not Met”:** Describe the specific weakness identified and the rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs.

i. **Weaknesses:**

ii. **Rationale:**

**11010.4 Undergraduate Mathematics Content Knowledge** The program requires the teacher candidate to demonstrate and apply knowledge of the core mathematics content including calculus, axiomatic geometry, linear and abstract algebra, statistics, probability, and computer programming**.**

A. **Content Expert Decision**: Is the sub-standard met, met with weakness, or not met?

     Met       Met with Weakness      Not Met

B. **For Decisions of “Met with Weakness” or “Not Met”:** Describe the specific weakness identified and the rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs. A rationale does not need to be provided for standards “met”.

i. **Weaknesses:**

1. **Rationale:**

**11010.5 Historical Perspective** The program requires the teacher candidate to demonstrate knowledge of the historical development and perspective of mathematics including contributions of significant figures and diverse cultures.

A. **Content Expert Decision**: Is the sub-standard met, met with weakness, or not met?

     Met       Met with Weakness      Not Met

B. **For Decisions of “Met with Weakness” or “Not Met”:** Describe the specific weakness identified and the rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs. A rationale does not need to be provided for standards “met”.

i. **Weaknesses:**

ii. **Rationale:**

**11010.6 Instructional Tools** The program requires the teacher candidate to select and use appropriate instructional tools such as manipulatives and physical models, drawings, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies (e.g., graphing tools, interactive geometry software, computer algebra systems, and statistical packages); and makes appropriate decisions about when such tools enhance teaching and learning, recognizing both the insights to be gained and possible limitations of such tools.

A. **Content Expert Decision**: Is the sub-standard met, met with weakness, or not met?

     Met       Met with Weakness      Not Met

B. **For Decisions of “Met with Weakness” or “Not Met”:** Describe the specific weakness identified and the rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs. A rationale does not need to be provided for standards “met”.

i. **Weaknesses:**

ii. **Rationale:**

**11010.7 Content Pedagogy** The program requires that the teacher candidate is able to successfully implement a variety of instructional strategies. The candidate demonstrates the following:

a) Applies knowledge of curriculum standards for secondary mathematics and their relationship to student learning within and across mathematical domains.

b) Analyzes and considers research in planning for and leading students in rich mathematical learning experiences.

c) Plans lessons and units that incorporate a variety of strategies and mathematics-specific instructional tools to promote conceptual understanding and procedural proficiency.

d) Provides students with opportunities to communicate about mathematics and make connections among mathematics, other content areas, everyday life, and the workplace.

e) Implements techniques related to student engagement and communication including selecting high quality tasks, guiding mathematical discussions, identifying key mathematical ideas, identifying and addressing student misconceptions, and employing a range of questioning strategies.

A. **Content Expert Decision**: Is the sub-standard met, met with weakness, or not met?

     Met       Met with Weakness      Not Met

B. **For Decisions of “Met with Weakness” or “Not Met”:** Describe the specific weakness identified and the rationale for the decision. This information will guide the institution to provide additional information in their rejoinder, or be used to determine stipulations for the institution to address by the time the next visit occurs. A rationale does not need to be provided for standards “met”.

i. **Weaknesses:**

ii. **Rationale:**

**Curriculum Exhibit Form SFN 14381 (or status sheet):** This form or status sheet provides the opportunity for institutions to document the entire program including general studies, teaching specialty, and professional education. This form is used to document each student transcript that applies for teacher licensure. Please review this form to make sure all of the courses listed above for each sub-standard are listed as a “**Requirement”. If a course is missing or is not a required course, please list below:**

**Content Expert Review of Standard and recommendation to State Board of Examiner (BOE) Team for the Site Visit:** The content expert provides an initial review of the program standard and provides a recommendation to the CAEP/State Board of Examiners for the onsite review. **What additional information should the CAEP/ESPB Team research on-site during the visit?**

This report will be electronically forwarded to the CAEP/State Board of Examiners nine months prior to the scheduled program review visit. If you have any questions or concerns, please contact the Education Standards and Practices Board Executive Director at (701) 328-9646.

**Thank you for taking the time from your busy schedule to help document that our North Dakota institutions of higher education have prepared our teachers for the best possible education for all North Dakota students.**