

SECTION IV—EVIDENCE FOR MEETING STANDARDS

Assessment #6

MAT 255 (Perspectives on the Development of Mathematics) Presentation

a. Description of the assessment

MAT 255, Perspectives on the Development of Mathematics, is a required course for all Mathematics Secondary Education majors that focuses on the history of mathematics. Each teacher candidate enrolled in the course is expected to create a poster presentation depicting the life, work and most important contributions of a chosen mathematician who contributed to the historical development of either Number and Quantity/ Algebra /Geometry /Trigonometry/ Statistics and Probability /Calculus or Discrete Mathematics. The presentation is assessed by the instructor of the course using the rubric found in part f.

b. Alignment

| Standard 1: NCTM CAEP Mathematical Domains | Competencies and Elements Addressed |
|---|--|
| A.1 Number and Quantity | A.1.5 |
| A.2 Algebra | A.2.7 |
| A.3 Geometry and Trigonometry | A.3.10 |
| A.4 Statistics and Probability | A.4.6 |
| A.5 Calculus | A.5.6 |
| A.6 Discrete Mathematics | A.6.5 |
| Standard 2: Mathematical Practices | 2d, 2e |

Please see the Scoring Guide in Part f for a more detailed alignment.

c. Data findings

Prior to 2018, MAT 255 was only offered every fall semester. Due to the other changes in the Secondary Education sequence and for staffing reasons, we then moved the course to every spring semester. Therefore, the course was not offered between the fall of 2017 and the spring of 2019. The MAT 255 presentation assessment was a new assessment in the fall of 2017. Our data is from two semesters: Fall 2017 with 26 candidates enrolled and Spring 2019 with 38 candidates enrolled.

In fall of 2017, all candidates scored Proficient or above in Communication (2d). In Poster Content (1a) and Connections (2e), all teacher candidates except for one scored Proficient or above. In the overall Presentation, all but three teacher candidates scored Proficient or above.

In the spring of 2019, all candidates scored Proficient or above in all categories of the Presentation rubric.

d. Data Interpretation

It appears from the data that the large majority of our candidates are able to demonstrate proficiency for each of the domain competencies that relate to the history of mathematics (A.1.5, A.2.7, A.3.10, A.4.6, A.5.6, and A.6.5). They are also all able to organize their mathematical thinking and use the language of mathematics to express ideas precisely in their presentations (2d). Almost all candidates were also successful in demonstrating the interconnectedness of mathematical ideas and making connections to real world contexts (2e).

e. Assessment

The following is a description of the assignment from the course syllabus:

Presentation

At the end of the syllabus you will find a list of famous mathematician. All these mathematicians contributed to the historical development of Number and Quantity, Algebra, Geometry and Trigonometry, Statistics and Probability, Calculus, Discrete Mathematics. You will be required to pick a mathematician from the list. Only one presentation per mathematician will be allowed. Prepare a poster (18" x 24"), depicting the life and work (and most important contributions) of your chosen mathematician. The presentation should be 10 minutes and will be graded. Presentations will be held once a week and the order of presentations will be determined by a drawing.

f. Scoring Guide
MAT255: Rubric for Poster and Presentation

| | <i>Exemplary (5 points)</i> | <i>Satisfactory (3 – 4 points)</i> | <i>Needs Improvement (1 – 2 points)</i> | <i>Unsatisfactory (0 –1 points)</i> |
|---|---|--|--|---|
| <i>Poster content NCTM – CAEP 2012 – 1a + (A.1.5, A.2.7, A.3.10, A.4.6, A.5.6, A.6.5) (Max 5 points)</i> | <ul style="list-style-type: none"> *Conforms to specifications and contains excellent quality info required in the syllabus+ * Informative (Math majors and General audience) *Uses a variety of sources appropriately & correctly referenced | <ul style="list-style-type: none"> * Conforms to all specifications and contains sufficient info required in the syllabus+ * Somewhat informative (Math majors and General audience) *Uses a variety of sources appropriately & referenced some sources | <ul style="list-style-type: none"> * Conforms to all specifications and contains some info required in the syllabus+ * Somewhat informative (Math majors and General audience) *Uses some sources & referenced some sources | <ul style="list-style-type: none"> * Conforms to some specifications and contains little of the info required in the syllabus+ * Disorganized and not informative (Math majors and General audience) *Uses some sources & no referenced sources |
| <i>Poster connections (Max 5 points) NCTM-CAEP 2012 – 2e</i> | <ul style="list-style-type: none"> * Demonstrates the interconnectedness of mathematical ideas with connections to real world context(s) throughout * Colorful, creative and neat, including pictures and diagrams, visually pleasing | <ul style="list-style-type: none"> * Demonstrates the interconnectedness of mathematical ideas with limited real world connection(s) * Has some color, somewhat creative and neat, visually appealing including pictures and diagrams | <ul style="list-style-type: none"> * Limited connections among mathematical ideas and real world applications(s) * Has some color, somewhat creative and neat, missing visual appeal, has some pictures and diagrams | <ul style="list-style-type: none"> * Limited connections among mathematical ideas with no real world applications(s) * Dull and not creative, not orderly formatted, not visually pleasing, lacking color, pictures, diagrams |
| <i>Communication (Max 5 points) NCTM-CAEP 2012 – 2d</i> | <ul style="list-style-type: none"> *Organizes Mathematical thinking - natural flow of information * Use language of mathematics to express ideas precisely on poster and in presentation | <ul style="list-style-type: none"> * Some flow in order of the information *May have some minor errors in use of language of mathematics on poster or in presentation | <ul style="list-style-type: none"> * Somewhat orderly formatted * Errors in use of language of mathematics on poster or in presentation | <ul style="list-style-type: none"> * Lacks flow in order of the information *Many errors in use of language of mathematics in poster and presentation |
| <i>Presentation (Max 5 points)</i> | <ul style="list-style-type: none"> * Well-rehearsed, minimal stumbling * Mostly relaxed demeanor * Frequent eye contact * Voice projected loud and clear with proper pronunciation * Effective use of time * Demonstrates interest in content with good energy level * Cohesive teamwork with balanced time between presenters | <ul style="list-style-type: none"> * Prepared, refer to notes a few times, some stumbling * Relaxed demeanor, some nerves * Some eye contact throughout presentation * Speaks somewhat clearly, low volume with proper pronunciation * Minor errors in projection * Uses time effectively * Cohesive teamwork with one presenter dominating | <ul style="list-style-type: none"> * Prepared, refer to notes several times, stumbling * Not relaxed, clear signs of nerves * Barely any eye contact throughout presentation * Speaks somewhat clearly, low volume with improper pronunciation * Minor errors in projection * Uses time effectively * Lacks cohesive teamwork with one presenter dominating | <ul style="list-style-type: none"> * Somewhat prepared, reading from notes/poster, stumbling * Stressed demeanor * Lacks eye contact * Mumbles, low volume * Poor projection * Uses time ineffectively * No cohesive teamwork with no participation from one presenter |

+ Depicting the life, work and most important contributions of chosen mathematician who contributed to the historical development of Number and Quantity/ Algebra /Geometry /Trigonometry/ Statistics and Probability /Calculus or Discrete Mathematics.

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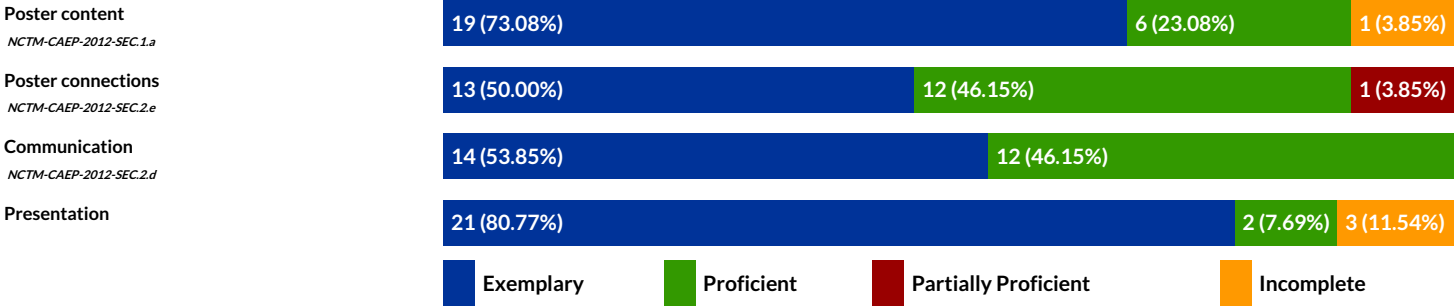
My Reports - Assessment Report

General Information

| | |
|---------------------|---|
| Title | MAT 255 presentation |
| Institution | NJ: The College of New Jersey |
| Assessment Rubric | MAT 255 Presentation rubric Rev. Fall 2017 - Rubric (COE Administrator) |
| Assessment Type | Summative |
| Scoring Type | Final |
| Inter-Rater Summary | N |

Rubric: Rubric

| | Exemplary (4 pts) | Proficient (3 pts) | Partially Proficient (2 pts) | Incomplete (1 pts) | Mean | Mode | Stdev |
|--------------------|----------------------|-----------------------|---------------------------------|-----------------------|-------|-------|-------|
| Poster content | 19 | 6 | 0 | 1 | 3.654 | 4.000 | 0.676 |
| Poster connections | 13 | 12 | 1 | 0 | 3.462 | 4.000 | 0.570 |
| Communication | 14 | 12 | 0 | 0 | 3.538 | 4.000 | 0.499 |
| Presentation | 21 | 2 | 0 | 3 | 3.577 | 4.000 | 0.968 |



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My Reports - Assessment Report

General Information

| | |
|----------------------------|---|
| Title | Spring 2019 MAT 255 Presentation data |
| Institution | NJ: The College of New Jersey |
| Course Section | 2019 Spring - MAT255 - 1 2019 Spring - MAT255 - 2 |
| Assessment Rubric | MAT 255 Presentation rubric Rev. Fall 2017 - Rubric (COE Administrator) |
| Assessor | VanderSandt, Su <vandersa> |
| Assessment Type | Summative |
| Scoring Type | Final |
| Inter-Rater Summary | N |

Rubric: Rubric

| | Exemplary (4 pts) | Exemplary (4 pts) | Proficient (3 pts) | Proficient (3 pts) | Partially Proficient (2 pts) | Partially Proficient (2 pts) | Incomplete (1 pts) | Incomplete (1 pts) | <i>n</i> | <i>Mean</i> | <i>Mode</i> | <i>Stdev</i> |
|--------------------|----------------------|----------------------|-----------------------|-----------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|----------|-------------|-------------|--------------|
| Poster content | 24 | 63.16% | 14 | 36.84% | 0 | 0.00% | 0 | 0.00% | 38 | 3.632 | 4.000 | 0.482 |
| Poster connections | 15 | 39.47% | 23 | 60.53% | 0 | 0.00% | 0 | 0.00% | 38 | 3.395 | 3.000 | 0.489 |
| Communication | 23 | 60.53% | 15 | 39.47% | 0 | 0.00% | 0 | 0.00% | 38 | 3.605 | 4.000 | 0.489 |
| Presentation | 11 | 28.95% | 27 | 71.05% | 0 | 0.00% | 0 | 0.00% | 38 | 3.289 | 3.000 | 0.454 |

Poster content*NCTM-CAEP-2012-SEC.1.a***Poster connections***NCTM-CAEP-2012-SEC.2.e***Communication***NCTM-CAEP-2012-SEC.2.d***Presentation**