On-campus memo:

TO: Admission and Standards Committee

FROM: Richard C. Meeks DNP, RN, COI
(Department Chair or Program Coordinator)*

CBHS-Nursing- BSN program
(College, Program or Department)*

Contact Person: Richard C. Meeks
EMAIL richard.meeks@mtsu.edu

RE: Deletion of MATH 1530 and addition of MATH 1710 to BSN program pre-requisite requirements
(Specify issue[s] being submitted to the committee.)

DATE: October 18, 2016

Level or area to which change(s) would apply:
[ ] University [ ] College [ ] School [ ] Department [ ] Program
[ ] Other

Program(s) and/or student population(s) affected: BSN program
(Note that an Impact Data Form must be submitted along with the proposal.)

This change would fall into the following classification(s) (check all that apply):

[ ] Proposed change in GPA for admission
[ ] Proposed change in GPA for retention
[ ] Proposed change in GPA for graduation
[ ] Proposed change in test or pre-requisite requirements for admission
[ ] Proposed change in other requirements for admission
[ ] Proposed change in policies or requirements for placement
[ ] Proposed change in policies or requirements for retention
[ ] Proposed change in policies or requirements for graduation
[ ] Proposed change in grading scale
[ ] Proposed change to academic program requirements
[ ] Proposed standards for a new program
[ ] Other

Description of Change Proposed:
(Attach separate sheet as needed.)

Deletion of MATH 1530 (Applied Statistics) and addition of MATH 1710 (College Algebra) to the BSN pre-requisite requirements

Rationale/justification for change (Please ensure that all aspects and ramifications of the change are addressed. Attach separate sheet as needed.):

see attached
Dissemination of information:

The following colleges, program or departments may be affected by this decision:

CBHS-Nursing (BSN program) and Math Department

I certify that I (or my representative) have consulted with each college or program that may be affected by the proposed changes.

Proposer's signature: 

October 18, 2016

Date

Other permissions sought: If this change is connected to curriculum or program development, have the appropriate forms been submitted to the general education, curriculum or graduate committees? If a proposal will/may impact enrollment in specific courses or programs, have concerned departments or programs been consulted? Please include dates of submission and/or approval as relevant.

Approved by UCC on October 14, 2016.

Also, Dr. Jenny Sauls, Director discussed with Math Department Chair as well

Other signatures needed for approval of proposal:

Department Chair or Program Coordinator*: 9/26/16

Date of initial proposal

College Dean*: 10/31/16

Date of college approval

Chair Admission and Standards Committee:

Date approved by ASC

Vice-President for Student Affairs / Vice-Provost for Enrollment & Academic Services:

Date approved by VPSA

Provost:

Date approved by Provost

President:

Date approved

* Note: When the proposal does not come from an academic unit, replace titles as needed. If a proposal comes directly from a dean or higher, the first signature may be omitted.
Master Catalog Change Form
Undergraduate

Department Nursing (BH-NURS)  Subject NURS  Course No.

Full title of course

Credit hours

Contact hours, if different

Course taught with: ☐ Standard Grading  ☐ Pass/Fail

Can be taken multiple times without calculating as repeat?  ☐ No  ☐ Yes

How many times  Total Hours

CIP code (go to http://nces.ed.gov/ipeds/cipcode/resources.aspx?y=SS)

Fees (if applicable) (must be approved by TBR)

Schedule type ☑ Instructional Method

EFFECTIVE TERM: __________________________

☐ New course

Abbreviated Title: __________________________

Prescribed requirement (lower division courses only):

☐ Writing  ☐ Reading  ☐ Math

☐ Course title change

Previous Abbreviated Title:

☐ Course prefix/number change

Previous course prefix/number:

☐ Credit hours change

Previous credit hours:

☐ Grading system change

P E L I C T E  M A T H  1 5 3 0  f r o m  B S N

P r e - r e q u i s i t e s  -  A d d  M A T H  1 7 1 0

☐ Change course to inactive status

☐ Change course to active status

☐ Cross-listing of existing course

Cross-list with:

☐ Other course changes

Course prerequisites/co-requisites/restrictions:

(A course cannot require departmental permission AND prerequisites/restrictions)

Memo Notes for RaiderNet:

(i.e. At least junior classification, pass/fail grade only)

Does this change require a new catalog description?  ☐ No  ☐ Yes (attach new catalog description, if required)

APPROVED ________________________________ Date ________________________________

Vice Provost for Academic Affairs

FOR RECORDS OFFICE USE ONLY

UCC Approved: __________________________

Records Entered: __________________________

1. __________________________ Begin  __________________________ End

2. __________________________ Begin  __________________________ End

3. __________________________ Begin  __________________________ End

4. __________________________ Begin  __________________________ End

5. __________________________ Begin  __________________________ End

updated 10/29/14
Current Catalog:

**General Education** requirements (shown in curricular listings below) include courses in Communication, History, Humanities and/or Fine Arts, Mathematics, Natural Sciences, and Social/Behavioral Sciences.

The following General Education courses are required for this major:

- BIOI 2010/2011 (Nat Sci)
- MATH 1530 (Math)
- PSY 1410 (Soc/Beh Sci)

Proposed Catalog:

REPLACE: MATH 1530 with MATH 1710
Don,

Thanks so much for sending over the Algebra textbook. I have shared with faculty on the curriculum committee. While it does not specifically contain content on multiplying/dividing fractions, solving for X, etc, we believe that it will improve their analytical skills and critical thinking. The UCC has approved the course as the new requirement, so it should become effective for fall at the latest.

Thanks again!

Jenny Sauls, PhD, MSN, RN, CNE
Professor and Director of Nursing
P.O. Box 81
1301 E. Main
Murfreesboro, TN 37132
PH: 615-904-8488
FAX: 615-898-5441
EMAIL: Jenny.Sauls@mtsu.edu
Please refer to TBR Policy 2:01:01:00, TBR Guideline A-010, and THEC Policy A1:0 and A1:1 before developing a proposal.

INSTRUCTIONS: Please respond to each question. If the question is not applicable, please use “NA” and include a brief explanation of why the question is not applicable to the proposed action. The form will expand to allow space as needed and must be submitted to the TBR Vice Chancellor for Academic Affairs or Vice Chancellor of Community Colleges as appropriate an MSWord document.

INSTITUTION: Middle Tennessee State University

PROPOSAL: Replace MATH 1530 with MATH 1710 as a pre-requisite BSN nursing requirement

PROPOSED EFFECTIVE DATE: To begin Fall 2017
(For terminations, date phase-out period will end: ______________)

PURPOSE: The mission and purpose of Middle Tennessee State University (MTSU) is to prepare graduates through signature programs. The University generates, preserves and disseminates knowledge and innovation and uses scholarship to enhance teaching and public service. The University is committed to prepare students to thrive in their chosen professions and changing global society.

The mission of the MTSU School of Nursing is to provide excellence in nursing education by preparing individuals to meet the dynamic and complex health care needs of society. Through robust academic programs, the School of Nursing demonstrates its commitment to the art and science of nursing. For the reasons stated above, the School of Nursing faculty have determined the MATH 1530 pre-requisite requirement is not an adequate preparatory math course for nursing students.

NEED/RATIONALE:
Math is a critical element of nursing practice. Nurses must calculate correct dosages of medications with 100% accuracy. For this reason, students completing the BSN program must complete a math competency at the beginning of every clinical experience in semesters two through five. Students are allowed two attempts to complete the math competency in each course at 100% accuracy. Students receive a failing grade in the course if not able to achieve this level of accuracy.

Over the past several semesters, nursing students had increased difficulty passing the math competency requirements. As a result of this finding, the School of Nursing approved and implemented a Dosage Calculation course. While this course will assist in the dosage calculation aspect, students still are having trouble with general...
concepts of math as well as logical thinking. The addition of MATH 1710 will improve overall math skills and logical (critical) thinking.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Failed Initial Exam</th>
<th>Failed Final Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2015</td>
<td>66</td>
<td>3</td>
</tr>
<tr>
<td>Spring 2016</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Fall 2016 (thus far)</td>
<td>22</td>
<td>1</td>
</tr>
</tbody>
</table>

Math Competency failures

**IMPACT:** The impact of the replacement of MATH 1530 with MATH 1710 as a pre-requisite course from the traditional BSN program will be positive. Hopefully, this course replacement will assimilate students better prepared to be successful in the program, and on the state licensure exam post-graduation.

**PLANS FOR ACCREDITATION:** NA - This change will not require a review or notification of accreditation bodies.

*The following two items require the completion of separate forms as indicated below. Do not complete the remainder of this document.*

- **Name Change for Existing Program or Academic Unit** (USE NAME CHANGE FORM ONLY ON TBR ACADEMIC AFFAIRS WEBSITE)

- **Establish an Off-Campus Site/Off Campus Center.** (USE THEC OFF-CAMPUS SITE/CENTER APPROVAL FORM(S) ONLY ON TBR ACADEMIC AFFAIRS WEBSITE)

Note: In keeping with the THEC Policies, the THEC Off-Campus Site /Center Approval Forms must be submitted for review. No announcements may be made regarding opening new site or center until the THEC approval is granted per THEC Policy 1.0.60B

**Type of Change (Check all those that apply):**

- Change of degree designation for an existing academic program or concentration per written recommendation of a disciplinary accreditation body or to more accurately represent the title to the workplace. Documentation must accompany the change request.

- Change of degree designation for an existing academic program or concentration when the change involves a significant curriculum shift in redefining the program’s purpose.

- Change/Add degree designation for existing programs

- Consolidate an existing academic program

- Conversion of an existing ground program to a fully on-line program (Indicate with or without
Curriculum modifications which increase or decrease total hours required for a degree.

Substantive Curriculum Modification (i.e., 9 or more SCH at the community college, 18 or more SCH undergraduate, 9 or more at graduate, or 50% or more certificate) in an existing academic program. Provide a side-by-side comparison of the existing and proposed curriculum.

The proposed program requires completion of ___ SCH distributed as follows:

<table>
<thead>
<tr>
<th>Curriculum Component</th>
<th>SCH Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>Major Field Core (required of all students in program)</td>
<td></td>
</tr>
<tr>
<td>Concentration (courses specific to the concentration)</td>
<td></td>
</tr>
<tr>
<td>Electives (may be guided or general electives)</td>
<td></td>
</tr>
<tr>
<td>Other (specify, i.e.)</td>
<td></td>
</tr>
</tbody>
</table>

No. of new courses: ___ with ___ credit hours

No. of SCH impacted by the revision since last TBR action ___

Establish a certificate less than 24 SCH (Provide the curriculum, justify the demand for the requested certificate and any alignment with other existing programs or certificates. Any new costs require the completion of the THEC FP.)

Establish a new concentration or MINOR (Justify the demand and show side-by-side comparison of proposed curriculum along with the curriculum for any other concentrations or minors within the existing degree. Any new costs require the completion of the THEC FP.) (Minors may be approved by the Vice Chancellor for Academic Affairs or referred to the Board.)

Establish a free standing degree program from an existing concentration with a steady enrollment and graduation rate for a period of at least three years may request to be recognized as a freestanding degree if the establishment of the concentration as a degree does not compromise the remaining degree and does not require new faculty resources. Provide documentation of enrollment and graduation data for the existing concentration. If there are multiple concentrations within the existing, provide enrollment and graduation data for all concentrations within the degree individually to demonstrate that becoming freestanding will not endanger other concentrations within the existing degree. Specify phase out procedure and final phase out date for original concentration.

Establish a free standing degree program from an existing concentration for more accurate Representation of title to the workplace. Provide letters of support from the workplace to demonstrate more accurate representation as a freestanding degree. (See TBR policy 2:01:01:00 II (m) for performance funding implications.) Provide documentation of enrollment and graduation data for the existing concentration. If there are multiple concentrations within the existing, provide enrollment and graduation data for all concentrations within the degree individually to demonstrate that becoming freestanding will not endanger other concentrations within the existing degree. Specify phase out procedure and final phase out date for original concentration.

Establish a new academic unit or reorganization (Specify department, division, college, school, campus sponsored centers not seeking Center of Excellence/Emphasis status through the THEC,
centers within existing academic units, institutes, bureaus, campus, etc.) (Attach a current and proposed organizational chart.) Specify if the requested action results in a net gain of an academic unit (i.e., department, on-campus center, institute, bureau, division, school, or college). The THEC has established additional requirements which must be attached to this request which may be located at http://www.tn.gov/thec/Divisions/AcademicAffairs/academic_programs/THEC%20Administrative%20Units%20Form%20Feb%2027%202015.pdf. This action will be reviewed with Executive signature action by the THEC.)

___ Establish an articulation agreement between institutions or between programs within a single institution

___ Extend an existing degree program to be delivered 100% at an off-campus location. (Extension to 100% off-campus delivery requires additional action if the location of delivery is to be converted from a “site” to a “center.”)

___ Inactivation of an existing program or concentration (If a program is not reactivated within a period of three years, the program will automatically be terminated and removed from the Academic Inventory by December of that year.)

___ Reactivation of a program that was placed on inactivation within the past 3 years
   Date of inactivation: __________________ Date of proposed reactivation: __________________

___ Termination (with or without phase-out, specify) of an existing program or concentration

___ Policy Revision: Admission/Progression/Graduation (institutional or program specific)
   (Attach the current and proposed policy as a side-by-side comparison)

_x_ Other Change in pre-requisite requirement

3. Indicate Program, Certificate and Concentration Change as Reflected in the Academic Program Inventory:

<table>
<thead>
<tr>
<th>Before the Proposed Change (List as it now appears on the official Academic Program Inventory at THEC)</th>
<th>After the Proposed Change (List as it should appear on the official Academic Program Inventory at THEC, once approved.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Old Program or Certificate Option (Include all existing concentrations before revision.)</td>
<td>Degree</td>
</tr>
<tr>
<td></td>
<td>Title of New Program Certificate, or Concentrations existing after revision is approved.</td>
</tr>
</tbody>
</table>

4.*Attach a copy of the "before and after" curriculum or organizational chart, as applicable, and a rationale for the proposed change. For policy changes, include the current and proposed policy. Whenever possible a side-by-side comparison is preferred.
5. Intended implementation date for program change: ______________

6. For terminations, date phase-out period will end: ______________
   
   (If the phase-out period is greater than 1 year for certificates or 3 years for any other program, explain why more time is needed.)

7. If any new costs are anticipated, attach the THEC Financial Projections Form.

8. Describe the anticipated impact for students, personnel, fiscal resources, and other clientele.
Admission and Standards Committee
IMPACT DATA FORM for PROPOSED CHANGES

Department or Program or University Office: CBHS- Nursing

Brief Statement of Proposed Change: Delete MATH 1530/ Add MATH 1710  Date: October 20, 2016

1. Detailed discussion of how proposed changes may impact students, prospective students, university programs and/or other. (Use as much space as you need below. You may refer to cover memo and its attachments as needed to avoid repetition.)
   See supporting documentation attached.

2. Identify the student population(s) that will be affected.
   All BSN nursing students

3. Are there plans to make this proposal retroactive? If so, please indicate when (specify the date) and identify student population(s) who will be affected. (For example, “students admitted under the 2004 catalog or earlier.”)
   None- To be implemented Fall 2017.

4. Discuss the specific impact on students. Provide enrollment and/or other relevant data for the past three years, including appropriate demographic data (e.g. male, female, minority, part-time, older students etc.) to illustrate the possible impact on specific groups. (For example, for a proposal to raise the GPA for graduation, provide a breakdown of graduating student GPA by different demographic groups.) Attach supporting documentation.
   See supporting documentation attached.
PROPOSAL: Deletion of MATH 1530 from pre-requisite requirements
Addition of MATH 1710 to pre-requisite requirements

PROPOSED EFFECTIVE DATE: To begin Fall 2017

PURPOSE:
The mission of the MTSU School of Nursing is to provide excellence in nursing education by preparing individuals to meet the dynamic and complex health care needs of society. Through robust academic programs, the School of Nursing demonstrates its commitment to the art and science of nursing.

For the reasons stated below, the School of Nursing faculty have determined MATH 1530 outlined as a pre-requisite in the traditional BSN program is not adequate preparation in math skill or logical thinking for nursing students.

IMPACT:

As stated above, the overarching goal of the School of Nursing is to prepare graduates to pass the national licensure exam (NCLEX) post-graduation and become licensed as a Registered Nurse (RN).

Currently, NCLEX examination scores are declining. Below are aggregate scores from years 2010 to 2015. Applicants are tested approximately four to six weeks after graduation. The School of Nursing offers two cohorts per year (Fall/Spring).

<table>
<thead>
<tr>
<th>Year</th>
<th>Tested</th>
<th>Passed</th>
<th>% Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>50</td>
<td>44</td>
<td>88%</td>
</tr>
<tr>
<td>2011</td>
<td>113</td>
<td>106</td>
<td>93.80%</td>
</tr>
<tr>
<td>2012</td>
<td>109</td>
<td>102</td>
<td>93.50%</td>
</tr>
<tr>
<td>2013</td>
<td>162</td>
<td>122</td>
<td>75.30%</td>
</tr>
<tr>
<td>2014</td>
<td>145</td>
<td>121</td>
<td>83.40%</td>
</tr>
<tr>
<td>2015</td>
<td>121</td>
<td>96</td>
<td>79.30%</td>
</tr>
</tbody>
</table>

BSN NCLEX pass rates 2010-2015

Realistically, these results are unacceptable as aggregate scores do not reflect the School of Nursing goal of greater than 90% pass rate for graduates. If NCLEX scores do not improve, accreditation and the program will be in jeopardy.
Math is a critical element of nursing practice. Nurses must calculate correct dosages of medications with 100% accuracy. For this reason, students completing the BSN program must complete a math competency at the beginning of every clinical experience in semesters two through five. Students are allowed two attempts to complete the math competency in each course at 100% accuracy. Students receive a failing grade in the course if not able to achieve this level of accuracy.

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Math Competency failures

Over the past several semesters, nursing students had increased difficulty passing the math competency requirements. As a result of this finding, the School of Nursing approved and implemented a Dosage Calculation course. While this course will assist in the dosage calculation aspect, students still are having trouble with general concepts of math as well as logical thinking. The addition of MATH 1710 will improve overall math skills and logical(critical) thinking.

**Gender/Ethnicity bias:**

The deletion of MATH 1530 and addition of MATH 1710 will not affect admission of men or people from a non-Caucasian background. While changing the math pre-requisite requirement will likely strengthen all candidates, there is no bias in regards to gender or background.

**PLANS FOR ACCREDITATION:** NA- This change will not require a review or notification of accreditation bodies.
<table>
<thead>
<tr>
<th>Tennessee Universities- BSN</th>
<th>Stats</th>
<th>Math</th>
<th>Both</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquinas College</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austin Peay State University</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baptist College of Health Sciences</td>
<td>X</td>
<td></td>
<td>College Alg or pre-calc</td>
<td></td>
</tr>
<tr>
<td>Belmont University</td>
<td>X</td>
<td></td>
<td></td>
<td>Basic Mathematical Concepts</td>
</tr>
<tr>
<td>Carson-Newman College</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumberland University</td>
<td>X</td>
<td></td>
<td></td>
<td>Finite or higher</td>
</tr>
<tr>
<td>East Tennessee State University</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>King College</td>
<td></td>
<td>X</td>
<td></td>
<td>Stats + a college math</td>
</tr>
<tr>
<td>Lincoln Memorial University</td>
<td></td>
<td>X</td>
<td></td>
<td>College Alg</td>
</tr>
<tr>
<td>Milligan College</td>
<td>X</td>
<td></td>
<td></td>
<td>Part of BSN coursework- Dosage Calc 1st</td>
</tr>
<tr>
<td>South College</td>
<td></td>
<td>X</td>
<td></td>
<td>8 hours of Upper Division math</td>
</tr>
<tr>
<td>Southern Adventist University</td>
<td></td>
<td>X</td>
<td></td>
<td>Finite or higher</td>
</tr>
<tr>
<td>Tennessee State University</td>
<td>X</td>
<td></td>
<td></td>
<td>College Alg</td>
</tr>
<tr>
<td>Tennessee Technological University</td>
<td>X</td>
<td></td>
<td>College Alg or higher</td>
<td></td>
</tr>
<tr>
<td>Tennessee Wesleyan College</td>
<td></td>
<td>X</td>
<td></td>
<td>Stats + a college math</td>
</tr>
<tr>
<td>University of Tennessee</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Tennessee Chatt</td>
<td></td>
<td>X</td>
<td></td>
<td>Stats + a college math</td>
</tr>
<tr>
<td>University of Tennessee HSC</td>
<td></td>
<td>X</td>
<td></td>
<td>College Algebra</td>
</tr>
<tr>
<td>Union University</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Memphis</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Totals**

7  10  3

Comparison **TN All BSN programs**

Math vs. Stats as pre-requisite
<table>
<thead>
<tr>
<th>Alabama Universities- BSN</th>
<th>Stats</th>
<th>Math</th>
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</tr>
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<tbody>
<tr>
<td>Auburn University</td>
<td>X</td>
<td></td>
<td></td>
<td>College Alg or Pre-calc</td>
</tr>
<tr>
<td>Auburn University Montgomery</td>
<td>X</td>
<td></td>
<td></td>
<td>Finite math</td>
</tr>
<tr>
<td>Oakwood University</td>
<td>X</td>
<td></td>
<td></td>
<td>General college Math</td>
</tr>
<tr>
<td>Samford</td>
<td>X</td>
<td></td>
<td></td>
<td>College Alg or Pre-calc</td>
</tr>
<tr>
<td>Spring Hill College</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troy University</td>
<td></td>
<td>X</td>
<td></td>
<td>Pre-calc</td>
</tr>
<tr>
<td>Tuskegee University</td>
<td></td>
<td>X</td>
<td></td>
<td>College Algebra</td>
</tr>
<tr>
<td>University of Alabama</td>
<td></td>
<td>X</td>
<td></td>
<td>College Algebra</td>
</tr>
<tr>
<td>University of Alabama - Birmingham</td>
<td>X</td>
<td></td>
<td></td>
<td>Finite math</td>
</tr>
<tr>
<td>University of Alabama in Huntsville</td>
<td>X</td>
<td></td>
<td></td>
<td>Finite or above</td>
</tr>
<tr>
<td>University of Mobile</td>
<td></td>
<td>X</td>
<td></td>
<td>College Algebra</td>
</tr>
<tr>
<td>University of North Alabama</td>
<td>X</td>
<td></td>
<td></td>
<td>College Algebra or above</td>
</tr>
<tr>
<td>University of South Alabama</td>
<td>X</td>
<td></td>
<td></td>
<td>College Algebra or above</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>1</td>
<td>12</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

Comparison: All BSN programs where math vs. stats is a prerequisite.