	ACADEMIC AFFAIRS GUIDELINES

Section 2.2:	Admissions and Transfer	
Title:	Mathematics Placement Guidelines	
Number (Current Format)	**Number (Prior Format)**	**Date Last Revised**
2.2.1.A	XII.E, 7.6.A	11/2022
Reference:	Board of Regents Minutes, August 2016. April 2017 Placement Update at AAC Board of Regents Minutes, May 2022 BOR Policy 2.2.1 – System Undergraduate Admissions	
Related Form(s):	None.	

1. **Introduction**

   1.1 Overview: The South Dakota Board of Regents espouses a standardized process specific to initial placement of students in math courses[1].

   1.2 Rationale: Students are placed in accordance with acknowledged skills and abilities. Such placement attempts to match student preparation/dispositions and course rigor with the goal of positioning students for collegiate success.

   1.3 Scope: All incoming, degree seeking students at the undergraduate level (associate and baccalaureate-degreed programs) are initially placed in math courses as established by approved guidelines.

   1.3.1 Newly degree-seeking students who have already successfully completed mathematics course work at any regental institution bypass placement requirements; such students use completed course work to satisfy prerequisite requirements for future mathematics courses.

   1.3.2 A subset of students successfully complete math course work outside of the South Dakota regental system; if an external course is approved as a transfer equivalency for a regental course which also satisfies the math general education requirement, then the student is exempt from math placement; all other transfer students are placed in accordance with defined procedures.

   1.3.3 For non-degree seeking students, placement is relevant only if students pursue registration in math course work. In such cases, placement procedures do apply.

2. **Initial Placement** *(Refer to Matrix Featured in Appendix A)*

   2.1. College Math Courses (e.g., Math 103-121, Math Reasoning, Algebra, etc.)

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[1] Traditionally, math placement procedures were set in BOR policy. In August of 2016, the board membership approved a transition from BOR policy to AAC Guidelines. However, changes to the placement matrix (specifically, material changes that directly impact the placement process) remain subject to BOR approval.

- **High School GPA (HS GPA)[2]**

  HS GPA is used in isolation as a single measure of academic preparation. Its usage - which is preferential - promotes a student-friendly, streamlined method of initial placement. **Note:** HS GPA must be recent (no more than five years old).

- **Math Index (MI)**

  This measure of readiness integrates two data elements (HS GPA and ACT Math Subscore). Developed specifically for the regental system in 2013, it is calculated as follows: $\{(\text{HS GPA} \times 250) + (\text{ACT Math Subscore} \times 17)\}$. The MI provides an alternative to HS GPA in isolation.

- **SAT Math Subscores**

  SAT Math Subscores are converted to ACT Subscores (see concordance table presented in Appendix B). Consistent with HS GPA, standardized test scores must be recent (no more than five years old). ACT/SAT Subscores are exclusively used to calculate MI; alternately stated, such standardized test scores are not utilized in isolation to place students.

- **Smarter Balanced Math Subscore (SB)**

  In the spring of 2015, South Dakota High Schools collectively launched administration of this standardized test; SB test scores may be used to elevate math placement.

- **College Board Accuplacer Next Generation Math Test**

  If a student's situation requires additional methodology (i.e., due to absence of a viable HS GPA and/or SB test score), this Accuplacer mathematics test is used to determine placement.

2.2. College Math 123 (Calculus I):

- **College Board Accuplacer Calculus Test**

  Students must demonstrate readiness for calculus through not only HS GPA, but also Accuplacer test scores.

  Students without valid HS GPA and/or a smarter balance test score must take the Math Accuplacer Test to determine initial placement.

  If motivated toward immediate placement in Calculus I, such students must first achieve a score of 250 or higher in the Advanced Algebra and Functions (AAF) domain of the math test – then progress to the South Dakota Calculus test and earn a specified cut score.

- **South Dakota Calculus Test**

  If interested, students whose placement points to the bracket of courses which includes MATH 115 (Pre-Calculus) may sit for the custom-designed South Dakota Calculus

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[2] HS GPA was approved in the Fall of 2022 by the Math Discipline Council/AAC. The use of HS GPA was approved for home school students effective Spring 2023 by the Math Discipline Council/AAC.

test; earning a cut score as indicated on the math placement matrix (Appendix A) enables registration in Calculus I.

Each student may sit for the SD Calculus test twice; this includes once for initial placement and once for a challenge to that placement.

3. **Initial Placement Notes**

    3.1. HS GPA presents the primary **preferred** driver for math placement. Appendix A provides how HS GPA can be utilized for placement.

    3.2. Other alternative placement options are available in section 2.1 (see Appendix A).

    3.3. Following course registration, and prior to the start of the applicable term, new information (final HS GPA, new ACT/SAT Math Subscore) may become available. In such situations, student placement is reassessed; changes to course registrations may be either merited or required.

    3.4. Students who sit for the Accuplacer math test outside of the regental system may furnish official test scores; such scores are considered/applied to the approved regental math placement process.

4. **Student Challenge of Initial Placement**

    4.1. Incoming students may opt to challenge math placement by sitting for the Accuplacer test.

        4.1.1. An established fee is assessed for each test attempt.

        4.1.2. The maximal number of allowed test attempts is two.

        4.1.3. Calculation of the Challenge Index (CI) hinges on student success specific to the Advanced Algebra and Functions Module (AAF) of the Accuplacer test. In its absence, CI is not calculated, and original placement remains intact.

        4.1.4. The formula is as follows: {(HS GPA x 290) + AAF + 20}. AAF represents the Advanced Algebra and Functions Module. HS GPA must be recent (earned within the recent five-year time frame).

    4.2. Students may challenge placement through ALEKS (a product of McGraw Hill). In contrast to Accuplacer, ALEKS surpasses simple proficiency testing; its PPL (Placement, Preparation, and Learning) Program prompts opportunities for each interested student to ascertain current skills, identify targeted level, obtain instruction designed to enhance skills/achieve target, and ultimately, sit for the exam used in math placement. A fee may be assessed for this challenge test.

    4.3. Once a student initiates participation in a regental math course, the opportunity to challenge math placement concludes.

5. **Exceptions**

    5.1. Exception appeals are handled on a case-by-case basis by the requesting student's home university.

    5.2. Any exceptions must be approved in advance of the census date established for the relevant term (see BOR Policy 2.1.1 – System Academic Year/Academic Calendar).

6. **Inappropriate Course Enrollment**

   6.1. Adherence to placement procedures is mandatory; students must register for courses as indicated by the math placement matrix.

   6.2. Universities purposefully access information housed in the regental student information system to monitor appropriate course enrollments.

   6.3. Upon identification, students who disregard placement directives are administratively withdrawn prior to census date for the term and notified of this outcome.

SOURCE:

BOR August 2016; May 2017 (Clerical); July 2017 (Clerical); AAC February 2018; AAC July 2018; AAC February 2019; April 2019 (Clerical); May 2019 (Clerical), April 2020 (Clerical); AAC September 2020; BOR May 2022; BOR November 2022.

MATH PLACEMENT CHART
Students may choose the highest placement from these options

COURSE	High School GPA (HSGPA)	Math Index (MI) MI= 250 × HS GPA + 17 × MATH ACT*	Smarter Balanced Score	Accuplacer score *(Only if no valid HS GPA)*	CHALLENGE INDEX CI = 290 × HS GPA + AAF** + 20 *If student does not reach AAF domain, no challenge index*	ALEKS PPL *(May vary by campus)*
MATH 095, 101 or MATH 103/093	Basic Placement- anyone can take these courses- there is no placement or prerequisite requirement for these courses. NSU ELearning High School Approved DOE Course can be used for placement into Math 103 or Math 114 with a grade above a D.					
MATH 114 w/094	$2.34 \leq HSGPA < 3.03$	MI 950 or higher	2543-2627	QAS 224-254	CI 950 or higher	32
MATH 103 or MATH 114	$3.03 \leq HSGPA < 3.55$	MI 1150 or higher	2628 or higher	QAS 255-300 or AAF 200-249	CI 1150 or higher	46
MATH 115 or MATH 120 or MATH 121/121L or MATH/STAT 281	*HSGPA* is 3.55 or higher	MI 1300 or higher	NA	AAF 250-300 or Accuplacer SDCalculus 1-15	CI 1300 or higher	61
MATH 123 w/123L	*HSGPA* is 3.55 or higher AND Accuplacer SDCalculus 16 or higher	MI 1300 or higher AND Accuplacer SDCalculus 16 or higher	NA	AAF 250+ AND Accuplacer SDCalculus 16 or higher	CI 1300 or higher AND Accuplacer SDCalculus 16 or higher	76
MATH 123	*HSGPA* is 3.55 or higher AND Accuplacer SDCalculus 19 or higher	MI 1300 or higher AND Accuplacer SDCalculus 19 or higher	NA	AAF 250+ AND Accuplacer SDCalculus 19 or higher	CI 1300 or higher AND Accuplacer SDCalculus 19 or higher	89

*SAT is converted to equivalent ACT for MI calculation (See Appendix B)
**AAF (Advanced Alg. and Functions) Accuplacer Math score
Notes:
- Students are permitted to take the Accuplacer 2 times (student pays fee for each attempt; if no valid HS GPA- no charge for first attempt).
- Accuplacer domains: QAS: Quantitative Reasoning, Algebra & Statistics; AAF: Advanced Algebra and Functions
- Test Scores and HS GPA must be no more than 5 years old to be used for placement.
- ALEKS and Accuplacer access may vary by university.

Appendix B

ACT – SAT Math Score Concordance

SAT range	ACT	Score to use when single score point comparison needed
800	36	800
790 – 770	35	780
760	34	760
750 – 740	33	740
730 – 720	32	720
710	31	710
700 – 690	30	700
680	29	680
670 – 660	28	660
650 – 630	27	640
620 – 610	26	610
600 – 590	25	590
580 – 570	24	580
560 – 550	23	560
540	22	540
530	21	530
520	20	520
510	19	510
500 – 490	18	500
480 – 460	17	470
450 – 420	16	430
410 – 380	15	400
370 – 350	14	360
340 – 320	13	330
310 – 300	12	310
290 – 280	11	280
270 – 260	10	260