

# Multiple Measures for Math Placement at STLCC

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# What Should Be Used to Place Students in a Math Course?

## 1. Math Placement Tests:

- Convenient
- Only measure aptitude – doesn't always translate to success

## 2. High School GPA:

- Represents study skills, persistence, motivation, and aptitude
- High GPA may not accurately reflect math aptitude
- To use as a stand alone placement, you would need to analyze how old it was, how many math classes, what math classes, what grades in those classes, etc.

# What Should Be Used to Place Students in a Math Course?

## 3. **Combination of HS GPA and Math Placement Test**

- More effective than considering only one
- The HS GPA could measure how “good at school” the student was and the placement test could measure how “good at math”.

SLU uses a score called a “Math Index” which is essentially a weighted average of a student’s ACTM or Placement Test score and their overall high school GPA (on a 4.0 scale).

# Proposed Model – Using ACT Math

- **Criteria for Gateway Math**  
(Currently MTH 160, MTH 161, MTH 180, MTH 185)
  1. ACTM within the last 3 years
    - a)  $\text{ACTM} \geq 22$
    - b) Math Index<sub>ACTM</sub>:  $\text{GPA} * 100 + \text{ACTM} * 24 \geq 800$
    - c) Appeal Questionnaire/Interview

## **Criteria for Gateway Math Prerequisite** (Currently Intermediate Algebra)

1. ACTM within the last 3 years
  - a)  $\text{ACTM} \geq 19$
  - b) Math Index<sub>ACTM</sub>:  $\text{GPA} * 100 + \text{ACTM} * 24 \geq 700$
  - c) Appeal Questionnaire/Interview

# Proposed Model – Using ACT Math

**Table 1: Math Index<sub>ACTM</sub> = GPA\*100 + ACTM\*24**

GPA ACTM	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
12	538	548	558	568	578	588	598	608	618	628	638	648	658	668	678	688
13	562	572	582	592	602	612	622	632	642	652	662	672	682	692	702	712
14	586	596	606	616	626	636	646	656	666	676	686	696	706	716	726	736
15	610	620	630	640	650	660	670	680	690	700	710	720	730	740	750	760
16	634	644	654	664	674	684	694	704	714	724	734	744	754	764	774	784
17	658	668	678	688	698	708	718	728	738	748	758	768	778	788	798	808
18	682	692	702	712	722	732	742	752	762	772	782	792	802	812	822	832
19	706	716	726	736	746	756	766	776	786	796	806	816	826	836	846	856
20	730	740	750	760	770	780	790	800	810	820	830	840	850	860	870	880
21	754	764	774	784	794	804	814	824	834	844	854	864	874	884	894	904

Gateway Math via Math Index

Intermediate Alg via ACTM  $\geq 19$

Intermediate Alg via Math Index

Elementary Alg or Below

# Proposed Model- Using ACCUPLACER

- **Criteria for Gateway Math**

(Currently MTH 160, MTH 161, MTH 180, MTH 185)

1. Placement Test Score with the last 3 years
  - a) Elem. Alg.  $\geq 116$
  - b) Math Index<sub>ACCU</sub>:  $\text{GPA} \times 130 + \text{ACCU} \times 4 \geq 800$
  - c) Appeal Questionnaire/Interview

## **Criteria for Gateway Math Prerequisite (Currently Intermediate Algebra)**

2. Placement Test Score with the last 3 years
  - a) Elem. Alg.  $\geq 76$
  - b) Math Index<sub>ACCU</sub>:  $\text{GPA} \times 130 + \text{ACCU} \times 4 \geq 700$
  - c) Appeal Questionnaire/Interview

# Proposed Model- Using ACCUPLACER

AP \ GPA	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
40	485	498	511	524	537	550	563	576	589	602	615	628	641	654	667	680
45	505	518	531	544	557	570	583	596	609	622	635	648	661	674	687	700
50	525	538	551	564	577	590	603	616	629	642	655	668	681	694	707	720
55	545	558	571	584	597	610	623	636	649	662	675	688	701	714	727	740
60	565	578	591	604	617	630	643	656	669	682	695	708	721	734	747	760
65	585	598	611	624	637	650	663	676	689	702	715	728	741	754	767	780
70	605	618	631	644	657	670	683	696	709	722	735	748	761	774	787	800
75	625	638	651	664	677	690	703	716	729	742	755	768	781	794	807	820
80	645	658	671	684	697	710	723	736	749	762	775	788	801	814	827	840
85	665	678	691	704	717	730	743	756	769	782	795	808	821	834	847	860
90	685	698	711	724	737	750	763	776	789	802	815	828	841	854	867	880
95	705	718	731	744	757	770	783	796	809	822	835	848	861	874	887	900
100	725	738	751	764	777	790	803	816	829	842	855	868	881	894	907	920
105	745	758	771	784	797	810	823	836	849	862	875	888	901	914	927	940
110	765	778	791	804	817	830	843	856	869	882	895	908	921	934	947	960
115	785	798	811	824	837	850	863	876	889	902	915	928	941	954	967	980

Gateway Math via MI

Math 140 via ACCU  $\geq 76$

Math 140 via MI

Math 030 or Below



# Comments

- Test scores “expire” after three years, but high school GPA’s do not.
- A statement is needed somewhere on the webpage and/or in the documentation for this process that stipulates a processing time that must be allotted for students wishing to utilize multiple measures.
- Responses to the questionnaire will be tracked and analyzed to provide data for possible correlations between non-cognitive skills and accurate course placement.
- The continued use of Accuplacer as an assessment tool is impractical.
  - MDHE cut score for College Algebra or equivalent = 116 in the Elementary Algebra domain.
  - A perfect score in that domain is a 120.
  - It is our recommendation that the college pursue implementation of a new Math Placement Test.