



Introductory Overview of Program

MoSTEMWINS Program Name: **UP Program**

CIP Code and Instructional Hours: DS049W – 6 credit hours, 32.0101; MT110W – 6 credit hours, 27.0101; MF104W – 6 credit hours, 27.0301; Brush-up workshop – non-credit; CS102 - 1 credit hour, 32.0101

Length of Program: semester-based courses except for the week-long Brush-up

Delivery methods: lecture with online labs and supplemental resources

Certifications available: College Program Completion Certificate, National Career Readiness Certificate

Development of program: Colleges are grappling with the low success of developmental math students. Nationwide, less than one quarter of students who enroll in developmental education complete a degree, as noted by the Community College Research Center. Similarly, developmental education students at NCMC have been less likely to graduate than non-developmental students. Math students appear to have greater obstacles with the potential to be referred to multiple levels of remediation. These students have to successfully navigate one to three semesters of precollege instruction before being adequately prepared for their first college-level course. Recognizing this as an obstacle to completion, NCMC developed and implemented a co-requisite model through MoSTEMWINS in an effort to accelerate the remediation process and allow the student to remain on a more typical path to successful completion.

The **UP Program** is an effort designed to accelerate students identified with low skills in Math (i.e. placed into Developmental courses) into their program of study and completion. The program is comprised of four parts: *Brush-Up, Team-Up, Skill-Up and tutoring*. The overall goal is to make a smoother transition for students from Developmental Education courses to degree-required courses, improve retention, and to increase their overall college success.

The **Brush-Up** component is a one-week intensive and accelerated workshop designed for students who have placed into the college's lower level math courses - DS048, DS049, or MT110. This concept was a new intervention targeting students placed into developmental math courses attempting to accelerate their preparedness for the college-level course. The workshop quickly reviews the topics that are covered in each of the developmental math classes. In addition to individualized instruction, curriculum includes EdReady.org which accessed in class and provided for additional review as homework. At the completion of the intensive workshop, the goal is to have students score into a higher level math course with the post test.

Students who placed into DS048 or DS049 (developmental algebra courses) are eligible for **Team-Up**. Team-Up (DS049W, MT110W, and MF104W) is a *co-requisite* (dual enrollment) model of delivery where students are enrolled simultaneously in the course they placed into as well as the next higher level math course. During the first half of the class period, the higher level math curriculum is taught. Team-Up grant students are mixed with students who directly placed into the higher level math class. The Team-Up students then stay for the following period as well. This second half of the class period is completely tailored to the co-requisite students and their needs. It usually consists of answering questions over the day's lesson as well as doing additional examples and individual whiteboard work. Following that, students get individual practice while the teacher provides additional one-on-one work with students. The class is usually ended by giving the students a preview of the next day's lesson as well as working on basic skills the next lesson will require. Both "parts" of the course use Hawkes learning software. All of the students' homework is completed on software which enables students to get immediate feedback on their answers as well as provides additional instruction if needed.

All students participating in a Team-Up course are required to enroll in a comprehensive college success course called **Skill-Up (CS 102)**. This course includes training for students to learn appropriate academic strategies, including evaluating information, effective study skills, navigating Blackboard, SAIL, and business/soft skills such as time management, critical thinking, team work, leadership skills, self-motivation, and career assessment. Instruction for the Skill-Up course is provided through the following methods: guest speakers, group work, lecture, handouts, and videos.

Online tutoring is available for all grant students in developmental and college-level math courses that have participated in the UP Program. This allows students to have access to a tutor whenever they need it, not just during our campus working hours.

Challenges encountered to date: One of the biggest challenges of the overall UP program was change -- explaining the program details and communicating benefits to others. This includes to students, parents, faculty, registrar and advisors. Additionally, recruiting students for the spring semesters has been difficult. Ideally, students that are prime candidates for the UP Program should be just beginning their math course sequence. In the spring, there typically is not as large of a pool of students to recruit from as there is in the fall semester. Another surprising challenge has been getting the students to utilize online math tutoring.

Finally, as somewhat expected, it has been a challenge making minor adjustments to get the program to fit our campus and our demographic of students. The six credit hour equivalent course is a significant block of time on a student's course schedule which could make scheduling of other degree needed courses difficult. Logistically, changes to the campus student information/registration system was needed and office visits/academic resource center visits for faculty tutoring have also increased. Additionally, these courses often require extra time

commitment in and out of class for participating students which may or may not be embraced students due to other work or home-life commitments.

All the components in the UP Program have continuously been developed and adapted since its first semester. Brush-Up is a constantly evolving course because it is very much tailored to each group of students enrolled in the workshop. The placement test the students take at the end of the workshop has also changed three times during MoSTEM due to elimination of the Compass assessment and changing placement requirements and assessments on our campus. With each change of placement test, some modification of the workshop curriculum was required. As for student success, results to date have demonstrated that the Brush-Up concept has also been more successful for students placing into the two lower level developmental math courses rather than MT110 Intermediate Algebra.

Current status and plans: Both Team-Up and Skill-Up have already gone through some scaling up. An additional math class, College Algebra, is now offered in the Team-Up format on campus. Additionally, the Associate of Arts (transfer) degree on campus now requires students to complete the Skill-Up course.

Future plans for the program include enhancing the scaling up process for both Team-Up and Skill-Up even further. Curriculum and delivery development is already underway so that, in the fall 2017 semester, a Team-Up (co-requisite course) will also be available to the students in an online format for DS049W. Also in the fall 2017, all of the college-level math courses on our campus will have a Team-Up (co-requisite) component. Lastly, while Skill-Up is already a degree requirement for one degree, it is anticipated that in the near future all of our degrees will require the Skill-Up course.

UP Program Course Descriptions:

DS 049W Basic Algebra with Workshop - This course is designed for students who do not meet DS 049 Basic Algebra requirements. This course will address: order of operations, solving linear equations and inequalities, introduction to graphing in a rectangular coordinate system, simplifying polynomial expression, factoring, and solving quadratic equations with an emphasis on problem solving. Includes a three credit hour workshop designed to give students customized support to provide just-in-time academic support to help their learning and success of the course.

MT 110W Intermediate Algebra with Workshop – This course will address: basic algebra fundamentals, linear equations and linear inequalities, linear functions and their graphs, systems of equations and inequalities, operations with polynomial functions and factoring, quadratic equations and functions and their graphs, operations with rational expressions, and radical equations. This course will use algebra to model and solve real-world problems. This is a prerequisite course for College Algebra, Math Concepts, and Statistics. Includes a three credit hour workshop designed to give students customized support to provide just-in-time academic support to help their learning and success of the course.

Brush-Up Workshop – This course will address: whole numbers, fractions, and decimal operations and properties, ratios and proportions, signed number operations, basic geometry concepts, and units of measurement, introduction to statistics, order of operations, solving linear equations and inequalities, introduction to graphing in a rectangular coordinate system, simplifying polynomial expression, factoring, and solving quadratic equations with an emphasis on problem solving. This week long workshop is designed to help students “brush up” on their

math skills enough to test a level higher, whether that is Basic Algebra or Intermediate Algebra. The placement test will be given at the end of the week to determine if they were successful. Students will meet 8-12 a.m. Monday–Thursday and 8-completion of exams on Friday.

MF 104W Applied Technical Math with Workshop - This course is designed for students who do not meet MF 104 Applied Technical Math requirements. The purpose of this course is to develop skills in basic math areas, such as measurement in standard and metric units, conversions, scientific and engineering notation, ratio and proportion, decimals, fractions, percentages, formulas, equations, basic geometry, Pythagorean Theory, right triangle trigonometry and introductory statistical process control. Includes a three credit hour workshop designed to give students customized support to provide just-in-time academic support to help their learning and success of the course.

CS 102 - College Seminar is an academic course designed to introduce students to the North Central Missouri College community and collegiate environment. The course is designed to emphasize strategies that promote student retention and academic success. This course will: foster an appreciation for the privileges, rights, and responsibilities associated with a college education; acclimate students to college resources and utilization of information technology such as course management software; equip students with the learning skills necessary for success; and cultivate the ability for students to monitor their own learning and academic progress.

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