Fayetteville State University

CORE CURRICULUM COURSE CERTIFICATION REQUEST

Course*:* **MATH 121** Title*:* **Introduction to College Algebra** Credit Hours: **4**

Prerequisites: **None** Number of sections*:* **6+ (spring) 15+ (fall)** Class: size: **30**

1. **Course Description**
   Give course description and map course to FSU Student Learning Outcomes.

   This course provides a foundation in algebraic concepts and problem solving skills for students who are preparing to take college algebra. Topics include arithmetic of real numbers, simplifying expressions (polynomials, rational, radical, etc), and solving equations and inequalities.

   FSU Student Learning Outcomes

   Reasoning: Quantitative

   - Correctly solve mathematical problems *Introduce*

   Ethics and Civic Engagement

   - Develop and demonstrate personal system of ethics and morality *Introduce*

2. **Assessment**
   All certification requests must include an assessment plan. A description of the following should be linked to the FSU Student Learning Outcomes:
   a. Describe assignments and exams common to all sections

      MATH 121 uses homework assignments, chapter tests, and a comprehensive final examination for the purpose of reinforce newly acquired skills as well as assessments. Homework assignments and the final examination are common to all sections. The number of chapter tests (6) is equal across all sections but they are designed by individual instructors.

      Homework are assigned using MATHXL which is an online interactive course designed. There are 41 homework assignments and each assignment contains 10-12 problems. An average student can complete a homework assignment in less than an hour. Twenty five percent of the student's grade for the course is based upon homework assignments.

      There are six chapter tests and a comprehensive final exam. The format is a mixture of short answer questions and multiple choice questions. Examination questions are directly related to student learning outcomes in the course. In

general, cognitive domains include knowing facts and procedures, using concepts, solving routing problems. Seventy percent of the student's grade for the course is based upon chapter tests (50%) and Final examination (20%).

b. Describe at least two different forms of assessment common to all sections

We will use a pre-post test and assessment using "embedded" questions to the final examination as two different forms of assessments.
Pre-post test will include questions from three distinct categories "concept, routing problems, and applications" that satisfies student learning outcomes of the course.
Assessment using "embedded" questions to the final examination: We will include 5-10 problems that satisfy university core learning outcomes in the final examination.

c. Describe how assessment data is/will be collected and used for continuous improvement.

Pre-post tests: Students will be asked to take pre-post tests which will be posted online in MATHXL. We will find the average gain for pre-post test considering all the students who will complete the course. The assessment goal is to have a significantly positive gain.

Assessment using "embedded" questions to the final examination: We will find the students' success rate of these questions using stratified random sampling. That means, from each section of MATH 121, we select a random sample (25%) of students answer scripts and calculate the success rate of each question. The assessment goal is at least 70% of students will meet or exceed the target on each outcome.

3. **Instruction**
Describe how the course is taught. Include:
   a. methods of instruction (e.g., lectures, discussions, small groups, simulation), pointing out opportunities for active student learning

MATH 121 is taught in combination of lecture, discussion, and cooperative learning.

Most of the faculty gives a lecture on new material. These lectures include brief outline, objective, and example problems. Discussions "questions and answers", in class exercises involving cooperative learning, and students demonstrations are used to reinforced the material. Homework assignments give more opportunity for active learning.

b. general qualifications of all those who might teach the course, with areas of expertise, experience, and training

MS or PhD in mathematical sciences or Mathematics education

c. name and rank of all instructors for the previous two years, number of sections taught by each, degree and discipline of each

Name	Degree	Discipline	Spring 08	Fall 08	Spring 09	Fall 09
Dr. Nicoleta Bila	PhD	Mathematics	1	2		2
Dr. Yufang Bao	PhD	Probability & statistics				1
Dr. Zhenlu Cui	PhD	Applied Mathematics	1	2	1	2
Mr. Perry Gillespie	MS	Applied Mathematics		3		
Ms. Xiaogui He-Chen	MS	Mathematics		2	1	1
Dr. Asitha Kodippili	PhD	Mathematical Sciences	1	2	2	1
Dr. Leonza Loftin	PhD	Education	2		2	2
Dr. Radoslav Nickolov	PhD	Mathematical Sciences				1
Dr. Chedak Sarami	PhD	Mathematical Sciences			1	
Dr. Deepthika Senaratne	PhD	Applied Mathematics		1		2
Dr. Mohammad Siddique	PhD	Applied Mathematics	3	2	1	1
Dr. Kwami Tuprah	PhD	Statistics				1
Dr. Dong Wang	PhD	Mathematics		3		1
Dr. Vassil Yorgov	PhD	Mathematics				2
Dr. Guanghua Zhao	PhD	Mathematics	1			
Dr. Bo Zhang	PhD	Mathematics		1		2
Mr. Shawn Conyers	MS	Mathematics	1			
			10	18	8	19

d. description of how course will be coordinated to insure consistent implementation and assessment across all sections of the course

The department has appointed a course coordinator for the course. The coordinator prepares a common syllabus, set up common homework assignments, as well as set the comprehensive common final examination. Other tests, called chapter tests, are set up and administer by individual faculty teaching the course. The coordinator communicates with other faculty through emails and short meeting.

COURSE COORDINATOR

Dr. Asitha Kodippili phone: 672-1518 email akodippili@uncfsu.edu

SIGNATURES

		recommend	deny
Department Chair _____	Date _____	☐	☐
College Dean _____	Date _____	☐	☐

		approve	deny
Core Review Committee _____	Date _____	☐	☐
Provost_____	Date _____	☐	☐