Computing Outcomes in the Mathematics Major

1. **Students will be conversant with electronic computation as a mathematical technique.**

Specifically, students will:
   A. use computation to perform complex tasks and solve complex problems from calculus and a selection of other branches of mathematics;
   B. apply appropriate computational techniques, skills, tools, and strategies to solve problems;
   C. use technology to deepen mathematical understanding and enhance problem solving.

2. **Students will use computing to develop a positive disposition towards mathematics, including the inclination to persist, explore, generalize, and make conjectures.**

Specifically, students will:
   A. pose valuable questions and use computation to help to answer them in order to expand the boundaries of their knowledge of mathematics;
   B. demonstrate determination and perseverance using computing as a tool, in order to improve understanding and learn new mathematics;
   C. demonstrate positive self-perception as effective learners and practitioners of mathematics and computing.

3. **Students will use computing to help solve problems in pure and applied mathematics contexts and problems originating outside of the field.**

Specifically, students will:
   A. use computing to see connections between mathematical patterns and techniques in order to make generalizations;
   B. make connections between computing and different courses in mathematics, different areas of mathematics, and other disciplines;
   C. use computing to help solve problems originating outside of the classroom or the field of mathematics.

4. **Students will use computing to help them write and speak about mathematics with understanding and clarity.**

Specifically, students will:
   A. use mathematical and computing terminology and notation precisely and appropriately;

   B. make oral and written presentations appropriate for an intended audience;

   C. locate, analyze, synthesize, and evaluate information about the application of computing to a mathematical topic of interest.

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