

## Applied Mathematics Academic Learning Compact

### EXPECTED OUTCOMES

Students majoring in applied mathematics are expected to develop the following skills:

1. Critical thinking/problem solving
2. Mathematical modeling and computer programming
3. Content knowledge
4. Oral communication
5. Written communication
6. Research skills at an honors college level

To accomplish these outcomes, the mathematics program offers a wide variety of courses and seminars, in an environment that supports a close mathematical community of faculty and students that share mathematical ideas, projects, and camaraderie. Students further develop their communication and research skills as well as a critical perspective through the completion of a senior research project, conducted under the supervision of a faculty with the participation of at least two additional faculty members.

All of our classes and other educational activities build critical thinking, are rich in content and promote good communication skills through frequent student presentations.

### COURSE MAPPING

The following table lists AOC requirements only. In practice, students take additional advanced courses and tutorials which further develop the skills listed above.

	Crit.Th.	Modeling Computation	Content Knowledge	Oral	Written	Res.
Calc I	x	x	x			
Calc II	x	x	x			
Calc III	x	x	x			
Lin. Alg.	x	x				
Diff. Eq.	x	x	x			
Adv Lin. Alg	x	x	x			
Numerical Methods	x	x	x			
Mathematical Modeling	x	x	x	x	x	x

Partial Differential Eq	x	x	x			
Prob./Statistics	x	x	x			
Programming	x	x	x			
Math Sem. I				x		
Math Sem. II				x		
Math Sem. III				x	x	
ISPs		x			x	x
Thesis/Bacc	x	x	x	x	x	x

### **MEASURES TO TRACK STUDENT PROGRESS**

1. Faculty advisors will verify and certify that the student is meeting these goals on the Provisional Area of Concentration and Thesis Prospectus forms.
2. Students' outcomes will be tracked through the narrative evaluations for required courses.

### **SPECIFIC MEASURES TO EVALUATE GRADUATE'S COMPETENCIES**

1. Evaluation of senior thesis and baccalaureate examination.
2. SAPA assessment.
3. Student narrative evaluation record