

## ACMS Sample Curriculum

<i>First Year: First Semester</i>		<i>First Year: Second Semester</i>	
MATH 10550. Calculus I	4	MATH 10560. Calculus II	4
CHEM 10171. Chemical Principles	4	CHEM 10172 or 10122	4
PHYS 10310. General Physics I	4	PHYS 10320. General Physics II	4
History or Social Science	3	Philosophy or Theology	3
WR 13x00. Writing	3	University Seminar	3
FYS 10101. First Year Experience	1	FYS	1
<b>Total Credits</b>	<b>19</b>	<b>Total Credits</b>	<b>19</b>

<i>Sophomore Year: First Semester</i>		<i>Sophomore Year: Second Semester</i>	
ACMS 20550. Applied Math Methods I	3.5	ACMS 20750. Applied Math Methods II	3.5
ACMS 20620. Applied Linear Algebra/ ACMS 20210. Scientific Computing	3/3.5	ACMS 20620. Applied Linear Algebra/ ACMS 20210. Scientific Computing	3/3.5
Language	3	ACMS 30530. Introduction to Probability	3
Philosophy or Theology	3	Language	3
Elective	3	Philosophy or Theology	3
<b>Total Credits</b>	<b>15.5/ 16</b>	<b>Total Credits</b>	<b>15.5/16</b>

<i>Junior Year: First Semester</i>		<i>Junior Year: Second Semester</i>	
ACMS 30600. Stat Mthd & Data Analysis I	3.5	ACMS Elective	3
ACMS 40390. Numerical Analysis/ (ACMS 40730. Math/Comp Modeling/ACMS 40760 Stochastic Modeling)**	3	ACMS 40390. Numerical Analysis/ (ACMS 40730. Math/Comp Modeling/ ACMS 40740 Math/Comp Modeling in neuroscience)**	3
Language	3	Literature or Fine Arts	3
Philosophy or Theology	3	Science Elective	3
Elective	3	Elective	3
<b>Total Credits</b>	<b>15.5</b>	<b>Total Credits</b>	<b>15</b>

\*\*One of the ACMS 40730, 40740, 40760 will satisfy the modeling course requirement. If two or more courses are taken, the other can be counted as ACMS elective. At least one of the three courses will be offered each semester.

<i>Senior Year: First Semester</i>		<i>Senior Year: Second Semester</i>	
ACMS Elective	3	ACMS Elective	3
Electives	12	Electives	9
<b>Total Credits</b>	<b>15</b>	<b>Total Credits</b>	<b>12</b>

### Notes:

- Equivalent or higher sequences in science may be substituted, e.g., MATH 10850, 10860 for MATH 10550, 10560.
- Some ACMS courses, ACMS 30440 in particular, are not acceptable as electives for the major. The list of acceptable courses for ACMS majors can be obtained from the student's advisor.
- Introduction to Mathematical Reasoning (MATH 20630) is also an acceptable elective.
- Students with an interest in attending graduate school in mathematics or applied mathematics are encouraged to take Algebra (MATH 30710).
- An appropriate class in bioinformatics, biophysics, or a related topic, may be substituted for 3 credits in ACMS coursework with the permission of the Director of Undergraduate Studies.
- A student should take three core requirement courses during the first year, including one course that is designated a University Seminar. It is recommended that one course in history or social sciences be taken in the first year and one philosophy and one theology be taken by the end of sophomore year.

College of Science – Degree Requirements: <http://science.nd.edu/undergraduate/degree-requirements/> - Science

College of Science – Science Electives: <http://science.nd.edu/undergraduate/sample-curricula/>