

Engineering

Associate in Science Degree 2012-2013

Program Requirements.....	21
Additional Requirements.....	9
General Education/MnTC.....	30
TOTAL CREDITS.....	60

PROGRAM INFORMATION:

Students may take the first half of a Bachelor's degree in engineering at Anoka-Ramsey Community College. Coursework transfers to four-year baccalaureate engineering programs. Students should use the table below in selecting courses based on the requirements of the transfer institution. Students should also plan a program beyond the minimum degree requirements listed in order to transfer into the junior year of their engineering program. For additional information, visit our Web site at <http://www.AnokaRamsey.edu>.

PROGRAM GOALS:

By completing this program, students will achieve the following learning goals:

1. Comprehend and apply fundamental engineering concepts;
2. Understand and apply the engineering design process;
3. Present clear and accurate solutions with respect to mathematics and units of measure.

DEVELOPMENTAL COURSES:

Some students may need preparatory course in the areas of English or Mathematics. Courses numbered below 1000 will not apply toward this degree.

COMPLETION REQUIREMENTS:

- A minimum cumulative grade point average (GPA) of 2.0 in courses numbered 1000 or above at ARCC.
- Students who have transferred to ARCC must have a minimum GPA of 2.0 in combined ARCC courses and accepted transfer courses.
- A minimum of **20 semester credits** applied toward the degree must be taken from ARCC. This requirement may be reduced from **20 to 12 semester credits** for students transferring in at least **8 semester credits** from either another MnSCU college or the University of Minnesota.
- Completion of specific degree requirements. Total of 60 credits.

NOTE: A table showing transferability of ARCC courses to other universities and colleges is available on the Web site at <https://www.anokaramsey.edu/~media/engr%20table%20for%20guidesheet.ashx>

Program Requirements: 21 credits

- ENGR 1100 Introduction to Engineering..... 2
 - MATH 2210* Differential Equations..... 4
 - MATH 2220* Multivariable Calculus and Vector Analysis..... 5
 - CHEM 1061* Principles of Chemistry I..... 4
 - CSCI 1106* Fundamentals of Computer Science I..... 4
- Select one of the following courses:
- MATH 2200* Linear Algebra..... 4
 - MATH 2201* Introductory Linear Algebra..... 2
- Students transferring to the University of Minnesota should take MATH 2201*

Additional Requirements 9 credits

Select a minimum of 9 credits from the following list of courses. Use the transfer table found on the Web at to select courses that meet the transfer institution's requirement.

- In order to transfer into the junior year, plan a program beyond the minimum degree requirements. For more information, go to http://webs.anokaramsey.edu/engineering/transfer_program.htm.
- ENGR 1111* Engineering Graphics..... 3
 - ENGR 2218* Digital Logic OR ENGR 2221* Digital Fundamentals..... 2-4
 - ENGR 2219* Linear Circuits I..... 4
 - ENGR 2240* Thermodynamics..... 3
 - ENGR 2241* Statics..... 3
 - ENGR 2242* Dynamics..... 3
 - ENGR 2243* Mechanics of Materials..... 3
 - CHEM 1062* Principles of Chemistry I..... 4
 - CHEM 2061* Organic Chemistry I..... 5
 - CHEM 2062* Organic Chemistry II..... 5
 - CSCI 1107* Fundamentals of Computer Science II..... 4
 - CSCI 2253* Assembly Language Programming..... 4
 - MATH 2100* Discrete Mathematics..... 4

General Education/MnTC Requirements 30 credits

Students must complete at least 30 credits from the Minnesota Transfer Curriculum (MnTC) including all courses listed. You must complete at least one course in 6 of the 10 goal areas. One course may satisfy more than one area, but the course credits may be counted only once.

- 1. **Communications**
 - ENGL 1121*..... 4
- 2. **Critical Thinking**
- 3. **Natural Science**
 - PHYS 1327*..... 6
 - PHYS 1328*..... 6
- 4. **Mathematical/Logical Reasoning**.....
 - MATH 1400*..... 5
 - MATH 1401*..... 5
- 5. **History/Social/Behavioral Science**
- 6. **The Humanities and Fine Arts**
- 7. **Human Diversity**
- 8. **Global Perspective**
- 9. **Ethical/Civic Responsibility**
- 10. **People and the Environment**

* Course has a prerequisite. Prerequisites are listed on the course schedule and in the ARCC Catalog Course Descriptions pages.

NOTE: The requirements of this program are subject to change without notice. You are encouraged to contact an academic advisor, Cambridge Campus 763-433-1840 or Coon Rapids Campus 763-433-1240, for course planning assistance and information about transfer credit evaluation.

