RCTC PROGRAM PLAN

ENGINEERING
Associate in Science

I. MINNESOTA TRANSFER CURRICULUM (MNTC)/ GENERAL EDUCATION REQUIREMENTS ......................................................... 30 CREDITS

GOAL 1: WRITTEN AND ORAL COMMUNICATION ......................................................... 4 CR
ENGL 1117, Reading and Writing Critically I, 4 cr

GOAL 2: CRITICAL THINKING MAY BE MET BY ANY COURSE IN MNTC 1-10 GOALS

GOAL 3: NATURAL SCIENCES ......................................................................................... 5 CR
PHYS 1127, Classical Physics I, 5 cr

GOAL 4: MATHEMATICS/LOGICAL REASONING ......................................................... 5 CR
MATH 1127, Calculus I, 5 cr

GOAL 5: HISTORY AND THE SOCIAL AND BEHAVIORAL SCIENCES ....................... 6 CR
Credits from MNTC Goal 5

GOAL 6: HUMANITIES - THE ARTS, LITERATURE AND PHILOSOPHY ....................... 6 CR
Credits from MNTC Goal 6

GENERAL EDUCATION ELECTIVE .............................................................................. 4 CR
Credits from MNTC Goal 1-6 (See an RCTC counselor for appropriate choices)

II. PROGRAM CORE REQUIREMENTS ........................................................................... 20 CREDITS
MATH 1128, Calculus II, 5 cr
MATH 2237, Multivariable and Vector Calculus, 5 cr
MATH 2238, Differential Equations and Linear Algebra, 5 cr
PHYS 1128, Classical Physics II, 5 cr

III. ADDITIONAL COURSES ......................................................................................... 10 CREDITS
Choose courses from the following list based on the engineering area of emphasis (electrical, mechanical, chemical, etc.) and the intended transfer institution. Contact RCTC counselors to determine which courses are necessary and visit www.roch.edu/dept/sci/engineering/advising.htm.

BIOL 1220, Concepts of Biology, 4 cr
CHEM 1127, Chemical Principles I, 4 cr
CHEM 1128, Chemical Principles II, 4 cr
CHEM 2127, Organic Chemistry I, 4 cr
CHEM 2128, Organic Chemistry II, 4 cr
COMP 1150, Computer Science Concepts, 3 cr
COMP 2243, Programming and Problem Solving, 4 cr
COMP 2247, Algorithms and Data Structures, 4 cr
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ENGR 1152, Logic Design, 4 cr
ENGR 1153, Microprocessors, 4 cr
ENGR 2211, Statics, 3 cr
ENGR 2212, Dynamics, 3 cr
ENGR 2213, Linear Circuit Analysis I, 4 cr
ENGR 2214, Linear Circuit Analysis II, 4 cr
ESCI 1101, Earth Systems Science, 3 cr
ESCI 1114, Physical Geology, 4 cr
MATH 2218, Discrete Mathematics, 4 cr

Additional General Education credits depending on major, 1-10 cr

TOTAL .................................................................................................................... 60 CREDITS

ADDITIONAL NOTES:
It is very important to complete the appropriate math and science sequences and as many other
general education requirements as possible prior to transfer. However, it is not always necessary
to complete the A.A. degree before transferring. Contact your transfer college to discuss this and
meet with an RCTC counselor to ensure that the correct courses are chosen. For more detailed
advising, including transfer plans to specific universities and much more, please go to:
www.roch.edu/dept/sci/engineering/advising.htm

MORE INFORMATION REQUIREMENTS:
University of Minnesota – Twin Cities engineering programs require two years of high school
foreign language or two semesters of college foreign language.

To investigate the general education requirements for the University of Minnesota – Twin Cities,
see http://www.roch.edu/dept/sci/engineering/universities/uofm/uofmgened.htm

To investigate the general education requirements for Minnesota State University – Mankato, see
http://www.roch.edu/dept/sci/engineering/universities/mankato/mankatogened.htm

To transfer elsewhere investigate the requirements at that college and confer with an RCTC
counselor. Also, visit http://www.roch.edu/dept/sci/engineering/advising/htm

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