

PENDING MNSCU APPROVAL

## Medical Device Engineering Technology

### Certificate Program

### 2008-2009

**Program Information:** This 18-month certificate program prepares individuals for entry in the career field of medical device engineering technology and also provides the program core for the AS Degree MDET program. Coursework will transfer to Bemidji State University and may transfer in part or entirely to Minnesota State University-Moorhead and the University of Minnesota, and other postsecondary institutions. Students should meet with a representative of the transfer institution when planning class schedules. For additional information about the medical device engineering technology degree, visit the college Web site at <http://www.AnokaRamsey.edu>.

**Program Goals:** By completing this certificate, students will achieve the following learning goals: 1) demonstrate an understanding of the diversity of manufacturing technologies as they relate to medical device manufacturing; 2) write effectively for documentation requirements of the medical device industry, 3) demonstrate understanding of quality principles and regulatory requirements as they relate to medical device manufacturing, and 4) develop capacity to operate, maintain and troubleshoot manufacturing equipment and machines using software interface and diagnostic tools; 5) develop understanding of manufacturing properties and biocompatibility of metals, plastics, composites, adhesives and other materials; 6) demonstrate competency in manufacturing, quality, and inspection tools including microscopes, measurement and testing equipment; 7) develop capacity to create and customize parts design, understand product specifications and model part performance.

**Program Admission:** To apply for admission to the medical device engineering technology degree program, identify medical device engineering technology as your major on your application form.

**General Information:** College-level competence in English, writing, and mathematics should be acquired before entering the MDET program.

**Developmental Courses:** Some students may need preparatory courses in the areas of English or mathematics. Courses numbered below 1000 will not apply toward the Certificate Program.

<b>Program Core Requirements</b>		<b>28 credits</b>
BMED 1100 Intro to Biomedical Devices and Industry	2	
BMED 2100 Design/Mfg in the Medical Device Industry	3	
BMED 2200 Introduction to Medical Device Regulations//Ethics	3	
BMED xxxx Writing/Documentation for Medical Device Ind.	3	
MDET xxxx Mechatronics I+ Overview of Automation Tech.	3	
MDET xxxx Mechatronics II	4	
MDET xxxx Manufacturing Materials/Process	3	
BMED 2300 Intro to Quality Assurance/Systems	3	
MDET xxxx CAD/Computer-aided Design	2	
MDET xxxx Measurement and Verification Technologies	2	
Choose one of the electives below:		
<b>Electives</b>		<b>2-4 credits</b>
BMED 2297* Field Exp. and Seminar	4	*Permission of Program Director required.
BIOL 1102 Medical Terminology	2	
BIOL 1104 Human Body	4	
* Course has a prerequisite. Prerequisites listed on back.		

**Program Sequence:** The sequence that follows is suggested for full-time students. Part-time students will need more time to complete this program; many courses are offered in the evening.

<u>Fall Semester</u>		<u>Spring Semester</u>		<u>Summer or Fall Semester</u>	
BMED 1100	2	MDET xxxx (CAD)	2	BMED 2297 (Field Exp)	4
BMED 2100	3	MDET xxxx ( Meas.+ Verif. Tech.)	2	Or	
MDET xxxx (Mech I)	3	MDET xxxx (Mech II)	4	BIOL 1102 (Med. Term.)	<u>2</u>
BMED 2200	3	MDET xxxx (Mfg Mat/Pro)	3	Total	2-4
BMED xxxx (Writing)	<u>3</u>	BMED 2300 (Quality)	<u>3</u>		
Total	14	Total	14		

You are encouraged to contact a counselor or an advisor or *Ask Us* on the Web site ([www.anokaramsey.edu](http://www.anokaramsey.edu)), for course planning assistance and information about transfer credit evaluation.

**NOTE:** The requirements of this program are subject to change without notice. Students should refer to the current catalog to determine the limits to earn a degree.