



## **SUPPLEMENTS:**

Various materials including copies of the Powerpoint slides used in class will be made available on Moodle. These can be downloaded at any time by students. The text contains an access code to 'MasterngMicrobiology' which contains many useful resources for students. A link to MasteringMicrobiology is available on the Moodle page for MI 2650.

## **CALENDAR DESCRIPTION:**

This course covers aspects of bacterial physiology such as nutrient uptake, metabolism, extracellular proteins, chemotaxis and differentiation. Symbiotic associations and interaction of microbes with the environment are major topics. Basic principles of industrial microbiology and the use of biotechnology for the production of economically and medically important substance will be covered. Laboratory exercises are designed to complement the material included in classes.

**CREDIT/CONTACT HOURS:** 3 credits (3-0-4)

<b>DELIVERY MODE(S):</b> Classes	Monday	1130-1250 (J204)
	Fridays	1000-1120 (J204)
Labs	Wednesday	1430-1720 (J130)
	Fridays	1230-1320 (J126)

**TRANSFERABILITY:**

- BIOL 3xx – Athabasca University
- BIOL 274 – Augustana University
- MICRB 265 – University of Alberta
- Jr. BIOL – University of Calgary
- BIOL 3200 – University of Lethbridge
- BIOL 2xx – Concordia University College

**NOTE 1:** At the University of Calgary, students who pass MI 2650 will not be given credit for BIOL 231, but the course can be used as the pre-requisite for CMMB 343.

**EVALUATIONS:**

Lab Reports	15%
Lab Quizzes	5%
Final Lab Exam	20%
Mid-term Exam	20%
Final Exam	40%

**GRADING CRITERIA:**

<b>GRANDE PRAIRIE REGIONAL COLLEGE</b>			
<b>GRADING CONVERSION CHART</b>			
<b>Alpha Grade</b>	<b>4-point</b>	<b>Percentage</b>	<b>Designation</b>
<b>A<sup>+</sup></b>	<b>4.0</b>	<b>90 – 100</b>	<b>EXCELLENT</b>
<b>A</b>	<b>4.0</b>	<b>85 – 89</b>	
<b>A<sup>-</sup></b>	<b>3.7</b>	<b>80 – 84</b>	<b>FIRST CLASS STANDING</b>
<b>B<sup>+</sup></b>	<b>3.3</b>	<b>77 – 79</b>	
<b>B</b>	<b>3.0</b>	<b>73 – 76</b>	<b>GOOD</b>
<b>B<sup>-</sup></b>	<b>2.7</b>	<b>70 – 72</b>	
<b>C<sup>+</sup></b>	<b>2.3</b>	<b>67 – 69</b>	<b>SATISFACTORY</b>
<b>C</b>	<b>2.0</b>	<b>63 – 66</b>	
<b>C<sup>-</sup></b>	<b>1.7</b>	<b>60 – 62</b>	
<b>D<sup>+</sup></b>	<b>1.3</b>	<b>55 – 59</b>	<b>MINIMAL PASS</b>
<b>D</b>	<b>1.0</b>	<b>50 – 54</b>	
<b>F</b>	<b>0.0</b>	<b>0 – 49</b>	<b>FAIL</b>
<b>WF</b>	<b>0.0</b>	<b>0</b>	<b>FAIL, withdrawal after the deadline</b>

\*\* Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability

## **STUDENT RESPONSIBILITIES:**

Since participation in lectures, and completion of assignments are important components of this course, regular attendance in class is strongly advised. Students who chose not to attend or complete assignments must assumed the risks involved.

Students in MI 2650 **MUST** read the relevant pages of the textbook in order to supplement the information provided in classes.

In order to successfully complete MI 2650, students **MUST** attend all scheduled laboratory sessions and achieve a mean score of 50% on the laboratory assignments, including the Lab Exam.

All laboratory assignments **MUST** be completed and handed in at the time specified. **Late reports will not be marked.**

Due to the complexity of the laboratory exercises in MI 2650, they can be completed only during the scheduled times.

Since material covered in BI 1070 is relevant to MI 2650, it is assumed that students have retained that information and will be able to answer exam questions that refer to it.

Your attention is directed to the Academic Guidelines of Grande Prairie Regional College as described in the 2014-2015 Calendar. In particular, students should be familiar with expectations regarding student conduct on pages 42-44 dealing with plagiarism, cheating and the resultant penalties, since these are serious issues and will be dealt with severely.

This can be accessed at:

*[https://www.gprc.ab/files/forms\\_documents/20142015\\_College\\_Calendar.pdf](https://www.gprc.ab/files/forms_documents/20142015_College_Calendar.pdf)*

**\*\*Note:** all Academic and Administrative policies are available on the same page.

## MI 2650 - TOPIC OUTLINE

To improve understanding of the material covered during classes and to ensure successful completion of MI 2650, it is strongly suggested that students read the relevant text pages in advance of the classes.

<u>TOPIC</u>	<u>TEXT READINGS</u>	
	13 <sup>th</sup> Edition	14 <sup>th</sup> Edition
Introduction to Microbiology	1-23; 447-454	1-25; 348-354
Prokaryotic structure and function	34-36; 47-84; 133; 155-162; 192-193	32-64; 159; 108-115; 125-126
Nutrition & Metabolic Diversity of Prokaryotes	36-38; 94-97; 106-108; 341-371; 373-410; 711-713; 714-715	79-80; 82-84; 95-96; 379-432; 650-657
Genetic Regulation & Signal Transduction	170-174; 193-195; 210-223; 225-227;	120-127; 216-230; 232-233
Microbial Growth	118-149; 279-284;	144-171; 305-308
Control of Microbial Growth	756-786	158-182; 811-826

Microbial Associations:	672-676;	598-600
<i>Agrobacterium</i>	440-442; 729-730	336-339; 678-679
Nitrogen Fixation	365-368; 723-728	100-102; 673-678
Ruminant digestion	734-738	683-687
Microbes and man	738-741; 788-789; 798-807	687-691; 714-725