MASTER SYLLABUS

WASHTENAW COMMUNITY COLLEGE

Course Discipline Code & No: BIO 110 **Title:** Introduction to Exercise Science **Effective Term** Winter 2009

Division Code: MNBS **Department Code:** LIF **Org #:** 12100

Don't publish: ☐ College Catalog ☐ Time Schedule ☐ Web Page

Reason for Submission. Check all that apply.

- ☒ New course approval
- ☐ Three-year syllabus review/Assessment report
- ☐ Course change
- ☐ Reactivation of inactive course
- ☐ Inactivation (Submit this page only.)

Change information: Note all changes that are being made. Form applies only to changes noted.

- ☐ Consultation with all departments affected by this course is required.
- ☐ Course discipline code & number (was _____)*
  *Must submit inactivation form for previous course.
- ☐ Course title (was _____)
- ☐ Course description
- ☐ Course objectives (minor changes)
- ☐ Credit hours (credits were: _____)
- ☐ Total Contact Hours (total contact hours were: _____)
- ☐ Distribution of contact hours (contact hours were: lecture: _____ lab _____ clinical _____ other _____)
- ☐ Pre-requisite, co-requisite, or enrollment restrictions
- ☐ Change in Grading Method
- ☐ Outcomes/Assessment
- ☐ Objectives/Evaluation
- ☐ Other _____

Rationale for course or course change. Attach course assessment report for existing courses that are being changed.

Required course for new Exercise Science Program

Approvals Department and divisional signatures indicate that all departments affected by the course have been consulted.

Department Review by Chairperson ☐ New resources needed ☐ All relevant departments consulted

Print: Marvin Boluyt (Faculty/Preparer) Signature: Marvin Boluyt Date: 1/8/08

Print: Esta Grossman/William Nevers (Department Chair) Signature: Esta Grossman / William Nevers Date: 1/12/08 / 1/15/08

Division Review by Dean

☐ Request for conditional approval

Recommendation ☒ Yes ☐ No M. Showalter (Dean's/Administrator's Signature) Date: 1/15/08

Curriculum Committee Review

Recommendation _____

☐ Tabled ☒ Yes ☐ No Lisa Haas (Curriculum Committee Chair's Signature) Date: 1/29/08

Vice President for Instruction Approval

Roger M. Poelay. (Vice President's Signature) Date: 1/30/08

Approval ☒ Yes ☐ No ☐ Conditional

Do not write in shaded area.

Log File 1/15/08 SY Ecopy ☐ Banner 2/4 C&A Database 2/4 C&A Log File 2/4 Basic skills ☐ Contact fee ☐

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Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

***Complete ALL sections which apply to the course, even if changes are not being made.**

Course:	**Course title:**
BIO 110	Introduction to Exercise Science

Credit hours: 3

If variable credit, give range:

_____ to _____ credits

Contact hours per semester:

	Student	Instructor
Lecture:	45	45
Lab:		
Clinical:		
Practicum:		
Other:		
Totals:	45	45

Are lectures, labs, or clinicals offered as separate sections?

☐ Yes - lectures, labs, or clinicals are offered in separate sections

☒ No - lectures, labs, or clinicals are offered in the same section

Grading options:

☐ P/NP (limited to clinical & practica)

☐ S/U (for courses numbered below 100)

☒ Letter grades

Prerequisites. Select one:

☒ College-level Reading & Writing

☐ Reduced Reading/Writing Scores
(Add information at Level I prerequisite)

☐ No Basic Skills Prerequisite
(College-level Reading and Writing is not required.)

In addition to Basic Skills in Reading/Writing:

Level I (enforced in Banner)

	Course	Grade	Test	Min. Score	Concurrent Enrollment (Can be taken together)	Corequisites (Must be enrolled in this class also during the same semester)
	BIO 101	C			☒	
☐ and ☐ or					☐	
☐ and ☐ or					☐	
☐ and ☐ or					☐	

Level II (enforced by instructor on first day of class)

	Course	Grade	Test	Min. Score
☐ and ☐ or				
☐ and ☐ or				

Enrollment restrictions (In addition to prerequisites, if applicable.)

☐ and ☐ or Consent required

☐ and ☐ or Admission to program required
Program: _____

☐ and ☐ or Other (please specify):
_____

Please send syllabus for transfer evaluation to:
Conditionally approved courses are not sent for evaluation.
Insert course number and title you wish the course to transfer as.

☐ E.M.U. as _____

☒ U of M as MOVESCI 110

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

Course	Course title
BIO 110	Introduction to Exercise Science

Course description State the purpose and content of the course. Please limit to 500 characters.	Students will be introduced to the field of exercise science. The areas of exercise physiology, motor control, and biomechanics will be presented. Careers, open to exercise science students, will be explored.	
Course outcomes List skills and knowledge students will have after taking the course. **Assessment method** Indicate how student achievement in each outcome will be assessed to determine student achievement for purposes of course improvement.	**Outcomes** (applicable in all sections)	**Assessment** Methods for determining course effectiveness
	1. Identify basic principles of exercise physiology	Departmentally designed questions.
	2. Recognize the basic principles of motor learning	Departmentally designed questions.
	3. Identify the basic principles of biomechanics	Departmentally designed questions.
	4. Create a career plan with multiple endpoints by identifying career options.	Career plan
Course Objectives Indicate the objectives that support the course outcomes given above. **Course Evaluations** Indicate how instructors will determine the degree to which each objective is met for each student.	**Objectives** (applicable in all sections)	**Evaluation** Methods for determining level of student performance of objectives
	Outcome 1. Exercise physiology	Departmentally designed questions.
	a. use correct terminology when referring to movements, body parts, and metabolic reactions relevant to exercise physiology	
	b. identify regulatory enzymes and their agonists in metabolic reactions	
	c. identify and/or explain changes that occur during a single bout of exercise and in response to chronic exercise training	
	d. identify the critical parts of a motor unit	
	e. distinguish between aerobic and anaerobic processes	
	f. explain the contributions of each metabolic pathway to exercise energy supply and how these contributions change over time	
	g. identify the different skeletal muscle fiber types and their respective contributions to movement	
	h. identify cardiovascular and respiratory contributions to and adaptations to acute and chronic exercise	
	Outcome 2. Motor learning	Departmentally designed questions.
	a. use correct terminology when referring to movements, anatomical landmarks, and theoretical	

	constructs relevant to motor learning b. identify and/or explain the function of a motor unit c. identify and/or explain neural changes that occur during a single skilled movement and in response to chronic skill training	
	Outcome 3. Biomechanics a. use correct terminology when referring to movements, anatomical landmarks, and physics principles that govern the mechanics of movement b. identify and use the correct mathematical equation to solve various movement problems c. identify and/or explain mechanical changes that occur during a single skilled movement and in response to chronic skill training	Performance on quizzes and exams containing multiple choice, mathematical calculation, and short answer questions.
	Outcome 4. Career plan a. create a detailed career plan with alternate plans for various scenarios b. interview or shadow individuals in relevant careers	Career plan

List all new resources needed for course, including library materials.
Several small pieces of equipment and software to measure reaction time and other neural and biomechanical features of movement: ~$5,000

Student Materials:

List examples of types		**Estimated costs**
Texts	Text: The Biophysical Foundations of Human Movement by Abernethy et al., 2nd edition, 2005	$ 54
Supplemental reading	Course pack by Marvin Boluyt	$15
Supplies		
Uniforms		
Equipment		
Tools		
Software		

Equipment/Facilities: Check all that apply. (All classrooms have overhead projectors and permanent screens.)

Check level only if the specified equipment is needed for all sections of a course.

☐ Level I classroom
Permanent screen & overhead projector

☐ Level II classroom
Level I equipment plus TV/VCR

☒ Level III classroom
Level II equipment plus data projector, computer, faculty workstation

☐ Off-Campus Sites
☐ Testing Center
☐ Computer workstations/lab
☐ ITV
☐ TV/VCR
☐ Data projector/computer
☐ Other _____

Assessment plan:

Learning outcomes to be assessed (list from Page 3)	Assessment tool	When assessment will take place (semester & year)	Course section(s)/other population	Number students to be assessed
1. Identify basic principles of exercise physiology	Departmentally designed questions.	Winter 2009 and every 3 years thereafter	All sections	All students
2. Recognize the basic principles of motor learning	Departmentally designed questions.	Winter 2009 and every 3 years thereafter	All sections	All students
3. Identify the basic principles of biomechanics	Departmentally designed questions.	Winter 2009 and every 3 years thereafter	All sections	All students
4. Create a career plan with multiple endpoints	Career plan	Winter 2009 and every 3 years thereafter	All sections	Random subset of 10 career plans

Scoring and analysis of assessment:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric/scoring guide.

   Questions will be scored against the answer sheet.

2. Indicate the standard of success to be used for this assessment.

   For outcomes 1-3, a cluster of representative exam questions will be designated in advance for assessment. The class average percent of correct responses will be calculated. The minimum level for a successful outcome is 70% for each question. For outcome 4, 70% of students will achieve a score of 2 (average) or better on each item.

3. Indicate who will score and analyze the data (data must be blind-scored).

   Life Sciences faculty will collect the data from the instructor and and analyze the performances.

4. Explain the process for using assessment data to improve the course.

   The assessment data gathered as described above will provide information for syllabus review and revision. The department will review the data to determine what content areas should receive more emphasis or whether changes should be made to the core outcomes.