

MASTER SYLLABUS

Course Discipline Code & No: ROB 224 Title: Robotics IV Effective Term Fall 2009Division Code: HATDepartment Code: INDTOrg #: 14400Don'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.

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 consultedPrint: Jim Popovich
Faculty/PreparerSignature [Signature]Date: 11/13/08Print: Gary Schultz
Department ChairSignature [Signature]Date: 11/13/08

Division Review by Dean

☐ Request for conditional approvalRecommendation ☒ Yes ☐ NoDean's/ Administrator's Signature [Signature]Date: 11/13/08

Curriculum Committee Review

Recommendation

☐ Tabled☒ Yes ☐ NoCurriculum Committee Chair's Signature [Signature]Date: 1/7/09

Vice President for Instruction Approval

Vice President's Signature [Signature]Date: 1/9/09Approval ☒ Yes ☐ No ☐ Conditional

Do not write in shaded area.

Log File 1/14/08 Ecopy ☐ Banner ☐ C&A Database ☐ C&A Log File ☐ Basic skills ☐ Contact fee ☐Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

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

Course: ROB 224	Course title: Robotics IV
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Credit hours: <u>4</u> If variable credit, give range: _____ to _____ credits	Contact hours per semester: <table border="1"> <thead> <tr> <th></th> <th>Student</th> <th>Instructor</th> </tr> </thead> <tbody> <tr> <td>Lecture:</td> <td><u>30</u></td> <td><u>30</u></td> </tr> <tr> <td>Lab:</td> <td><u>60</u></td> <td><u>60</u></td> </tr> <tr> <td>Clinical:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Practicum:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Other:</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>Totals:</td> <td><u>90</u></td> <td><u>90</u></td> </tr> </tbody> </table>		Student	Instructor	Lecture:	<u>30</u>	<u>30</u>	Lab:	<u>60</u>	<u>60</u>	Clinical:	_____	_____	Practicum:	_____	_____	Other:	_____	_____	Totals:	<u>90</u>	<u>90</u>	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) X Letter grades
	Student	Instructor																						
Lecture:	<u>30</u>	<u>30</u>																						
Lab:	<u>60</u>	<u>60</u>																						
Clinical:	_____	_____																						
Practicum:	_____	_____																						
Other:	_____	_____																						
Totals:	<u>90</u>	<u>90</u>																						

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
<u>ROB 223</u>	<u>C</u>	_____	_____	☐	_____
☐ 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

☐ and ☐ or Other (please specify): _____

Program: _____

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 _____

☐ _____ as _____

☐ U of M as _____

☐ _____ as _____

☐ _____ as _____

☐ _____ as _____

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Course ROB 224	Course title Robotics IV	
Course description State the purpose and content of the course. Please limit to <u>500</u> characters.	This course involves advanced programming of robots and programmable controllers in an integrated work cell. Problems related to maintenance and trouble-shooting constitute a major segment of the course. A group project, involving the design and construction of a workcell that simulates some industrial process, is an enjoyable conclusion to this program.	
	Outcomes (applicable in all sections)	Assessment Methods for determining course effectiveness
	Design and construct a work cell (robotic device and process) in accordance with industry and safety standards.	Work cell project
Course Objectives Indicate the objectives that support the course outcomes given above.	Objectives (applicable in all sections)	Evaluation Methods for determining level of student performance of objectives
Course Evaluations Indicate how instructors will determine the degree to which each objective is met for each student.	Correctly uses at least 1 industrial robot.	Work cell project
	Effective and efficient robot programming	Work cell project
	Document robot programming	Work cell project
	Safely and correctly perform electrical wiring	Work cell project
	Document electrical wiring	Work cell project
	Effective and efficient PLC programming	Work cell project
	Document PLC programming	Work cell project
	Interface robot with surrounding equipment	Work cell project
	Effective use of teamwork	Work cell project
	Demonstrate creativity in design	Work cell project
Demonstrate effective troubleshooting	Classroom and lab participation	
Recognize and apply safety standards	Classroom and lab participation	
List all new resources needed for course, including library materials.		

Student Materials:

List examples of types	Estimated costs
Texts Supplemental reading Supplies Uniforms Equipment Tools Software	\$

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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	Assessment tool	When assessment will take place	Describe population to be assessed	Number of students to be assessed
1. Design and construct a work cell (robotic device and process) in accordance with industry and safety standards.	Work Cell project	Winter 2009 and every three years thereafter.	Students who complete ROB 224 Robotics IV, the program's capstone course.	All students

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.

The work cell project will be assessed using a departmentally developed rubric

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

75% of the projects will score an overall average of 2.75 or higher

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

Faculty, who are not teaching the course, will blind-score the data.

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

Industrial Technology faculty will review the assessment data to identify areas of weakness in the program and modify the program, course or instruction as needed.