

2001-2002 MINI-GRANT APPLICATIONS

Prepared by Academic Affairs

Faculty Member	Name of Mini-Grant	Outcome Expected	Summary
<p>Eric Burgess</p> <p>Submitted 3/26/02 Approved Presented Payment of \$2500 authorized 1/31/03</p>	<p>Mgmt 3250, Operations Management, Development of a Web-based Online Course</p>	<p>This project will be completed within budget and available to University of Minnesota, Crookston students by spring semester (January 2003)</p>	<p>Operations Management, Mgmt 3250, is a core management course required in two University of Minnesota, Crookston degree completion programs (Management and Manufacturing Management).</p> <p>The course is designed to teach students concepts, procedures, and technologies used by managers, administrators, and employees in the operation of an organization.</p> <p>The University of Minnesota, Crookston schedules two sections of Mgmt 3250 each year. The classes usually consist of 20 to 25 students. Offering an online version of the course will make it available to distant learners and working students who cannot attend scheduled classes.</p> <p>An online syllabus and course outline will guide the learner through a structured learning process. The exercises, to be completed independently by students, will include case studies, interactive projects, self-tests and exams. Online students will be assessed against the same criteria as regular students.</p> <p>Developing this course supports our vision for the Center for Business and Technology to eventually offer all courses online.</p>
<p>Dave Crawford</p> <p>Submitted 5/02 Approved 5/29/02 Presented 4/25/03 Payment</p>	<p>Acct 2101, Accounting Principles I, Development of a World Wide Web-based Course</p>	<p>The course will be developed over the next several months and would be available for implementation and enrollment of students at some time during the next academic year.</p>	<p>Current plans are to make use of available Web-CT technology for accessibility to most of the course content. In addition, I have chosen a textbook that offers an excellent web site and supporting materials for this type of delivery medium. The course will adhere to a level of rigor equivalent to what is being offered on campus while delivering content electronically as a supplement to the textbook such as e-lectures and other interactive learning techniques. There will be proctored examinations and the student will be responsible for obtaining suitable proctors at their site. This course will be designed for students that live at a distance and cannot otherwise attend classes on campus. It will not be used as a "substitute" course to be taken by local students except in rare cases.</p>
<p>David DeMuth and Karl Pazdernik (student)</p> <p>Submitted 5/14/02 Approved 5/29/02 Presented Payment</p>	<p>Comparative Design Analysis of Physics Laboratory Data</p>	<p>To improve upon the design and deployment of the web-based utilities used in the Physics courses offered by the UMC and UMN campuses.</p>	<p>The quality of results from the physics experiment performed on the apparatus in the distance learner's kit has been questioned when compared to those results of the more sophisticated on-campus equipment. Therefore the first step will be to compile representative data sets on both types of existing apparatuses for the initial comparison. Then the experimental manipulations and data collection devices will be improved upon in order to minimize experimental errors.</p> <p>The overall quality of data generated when using the rudimentary home-made devices used in the distance learner's kits as compared to those obtained on commercial scientific equipment in the campus laboratories will be examined to assure reliability of validating the basic laws of Physics.</p>

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			<p>A statistical comparison between the take-home physics lab and the on-campus physics lab using sophisticated equipment will be done using a statistical package such as SPSS on the laptop. Upon the complete of the analysis of the statistical information, we will formulate suggestions on how the experiments can be improved to produce more accurate results, and therefore, heightening the learning experience by those unable to attend the live version of the laboratory.</p> <p>In addition, we will work to improve upon the laptop-related technology used in the laboratory by incorporating additional Excel spreadsheet data and graphing activities as well as integrate the Pasco/Vernier hardware that was purchased previously for data acquisition and presentation. We expect to also produce web-based related utilities such as a quadratic equation solver which might assist making for a more efficient lab experience.</p> <p>The focus will be on the ten mechanics based experiments using many repetitions so that meaningful statistical treatment can be performed. The approach will be to refine and repeat the experiment on the sophisticated equipment until repetitive values are obtained. Then the equivalent experiment will be executed on the more rudimentary apparatus found in the distance learner's kit. The preparation and initial measurements will take approximately two weeks, when all the materials will be gathered, and each experiment studied so that full comprehension of the desired phenomena is acquired.</p> <p>The next step will be to [put the experiments into action. It takes approximately 3 hours to setup and perform one lab with one apparatus. There are 11 lab-sets, each of which contain several experiments or problems that require setup and testing. We expect setup, data runs and analysis to require 2-4 days per setup, in all nearly 200 hours of work. The data will be analyzed for precision, accuracy and variance.</p>
<p>Steven Hannah Submitted 10/8/01 Approved 10/22/01 Presented 4/5/02 Payment</p>	<p>A Light Weight, Portable, Low-Cost, Wireless Distance Course Delivery System</p>	<p>This proposal will demonstrate a system that will provide UMC faculty with the tools to easily capture and deliver streaming media courses for distance and on-campus students</p>	<p>In discussions with UMC faculty that are currently offering distance learning courses, the biggest obstacles noted are the time involved in developing curriculum suitable for distance delivery and the absence of personal interaction. If a system were developed that would streamline the process and reduce the time required to deliver the courses currently offered on-campus to off-campus students, faculty would embrace the notion of concurrently offering their courses to distance education students.</p> <p>The features necessary to facilitate these goals require that this system be:</p> <ol style="list-style-type: none"> 1. Low cost 2. Lightweight 3. Portable 4. High quality 5. Minimally time-consuming and user friendly for faculty and students

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			<p>6. Available on-demand 7. Technologically compatible with the distance-learning student's current computer equipment, software, and skills</p> <p>The UNITE system at the University of Minnesota, Twin Cities, offers courses for distance students in conjunction with traditional classroom settings through a system of fixed cameras and additional personnel to operate, encode, and publish the course lectures through streaming media technology. Although this system satisfies requirements 4, 5, 6, and 7, it does not satisfy 1, 2, and 3.</p> <p>This proposal will demonstrate a system with equal or near equal quality to that of UNITE at a fraction of the cost and time. The system will easily travel with a faculty member to different classrooms, on field trips, to symposiums and conferences, and anywhere a laptop and bag can be carried. The system can be set up and taken down in 5-7 minutes, and the streaming media can be offered in real-time or published within minutes of the conclusion of the capture.</p> <p>These streams will be made available during Fall 2001 to distance students or to students with legitimate absences to make-up missed class periods. The originator will solicit the opinion of the distance student taking the course to help evaluate the quality of the delivery method. Students who attend the in-class sessions may also use these streams to review discussions and lectures. The benefits also expand to the faculty member, who can review their lecture to ensure that the subject matter has been properly covered and to critique their own delivery style and teaching methods.</p>
<p>Melissa Hower</p> <p>Submitted April 2002</p> <p>Approved</p> <p>Presented</p> <p>Payment</p>	<p>Computer Software for AnSc 3203, Animal Anatomy and Physiology</p>	<p>To provide software that students can use in Animal Anatomy and Physiology laboratories to supplement dissection of real specimens</p>	<p>I would like to purchase the following two CD-ROMs:</p> <p>The Virtual Physiology Lab – that features the ten most common and important animal-based experiments as they are typically performed in the physiology component of the science class laboratory (\$109). Currently, I am unable to incorporate any actual physiology measurements into the laboratory sessions. We do not use live animals, so the laboratory component is all anatomy-based with discussion and questions to cover the physiology of the various body systems. Since I am not a licensed veterinarian, it would be highly unlikely that the University of Minnesota Institutional Animal Care and Use Committee would approve of my applying for the use of live animals and manipulating those animals with drugs and surgical procedures. This CD-ROM would allow for the addition of some physiology laboratories for this course.</p> <p>The Fetal Pig – incorporates detailed video footage of an actual dissection to teach the anatomy and physiology of the fetal pig. It explains and depicts graphically the pig's digestive, urogenital, respiratory, circulatory and nervous systems. It uses color animation and graphic enlargements to depict hard to see anatomical structures and it includes an audio dictionary of anatomical terms (\$149). Students in the course currently dissect stillborn pigs obtained from a local</p>

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			<p>swine producer. The addition of color animation and graphic enlargements of small anatomical structures would add further depth and dimension to dissecting those stillborn piglets.</p> <p>I would like to purchase 8 copies of each CD-ROM. For the past three years, I have taught an average of 18 students per laboratory period. Purchasing 8 copies of each CD-ROM would allow students to work in groups of 2-3 on assignments using the CD-ROMs. Students would be able to work through the programs in their small groups during the laboratory sessions. Potentially, students could check out the CD-ROMs from the course instructor to complete work outside of the laboratory time allotted. While I would still incorporate real specimens in some of the laboratory sessions, having these CD-ROMs available would provide another learning method and/or option for the students and encourage the use of their notebook computers during laboratory sessions.</p>
<p>Mark Huglen and Daren Johnson (student)</p> <p>Submitted 10/16/01 Approved Presented 4/26/02 Payment</p>	<p>Technology in the Classroom</p>	<p>Integration of Technology to Enhance Student Learning</p>	<p>We are attempting to create a solid "web presence" for the course "Communication in Human Relationships." The presence will include 1) WebCT, 2) PowerPoint Presentations, and 3) Web Pages and Links. By utilizing these three sources, we will enhance the interactive nature of the course. These items will cover the content of the communication course, "Communication in Human Relationships," in depth. The newly developed electronic learning aids will be designed to assist on-campus and potential distance education students in understanding the many aspects of the communication course. Many communication students will benefit from this educational resource because it will enhance their learning experience by utilizing various learning tools.</p>
<p>Martin Lundell</p> <p>Submitted 9/6/01 Approved Presented Payment</p>	<p>ITM 1060, Introduction to Database Management, Online Course</p>	<p>This course will have an online syllabus, online calendar, online testing, online Power Point slides (perhaps with audio narrative), online group discussions, and online assignments. Participants in this class will have the same learner outcome expectations as those taking the class in the traditional manner.</p>	<p>Offering courses via the web is a desirable distance learning alternative. It is the vision of our center to eventually offer all our courses online.</p> <p>Introduction to Database Management is a core program requirement for both ITM's Application Development and System Administration emphases. Offering this class online gives our students the flexibility of completing a core requirement even if their location or schedule will not allow them to attend locally.</p> <p>The online version of this course will be available to students by spring semester 2002.</p>
<p>Martin Lundell</p> <p>Submitted 10/8/01 Approved Presented Payment</p>	<p>ITM 2060, Database Management Systems, Online Course</p>	<p>This course will have an online syllabus, online calendar, online testing, online Power Point slides (perhaps with audio narrative), online group discussions, and online assignments. Participants in this class will have the same learner outcome expectations as those taking the class in the traditional manner.</p>	<p>Offering courses via the web is a desirable distance learning alternative. It is the vision of our center to eventually offer all our courses online.</p> <p>Database Management Systems is a core program requirement for both ITM's Application Development and System Administration emphases. Offering this class online gives our students the flexibility of completing a core requirement even if their location or schedule will not allow them to attend locally.</p>

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<p>Martin Lundell</p> <p>Submitted 4/8/02 Approved Presented Payment</p>	<p>ITM 2050, Online Course for C++</p>	<p>This course will have an online syllabus, online calendar, online testing, online Power Point slides, online discussions, integrated email, and online assignments. In conjunction with other funding this course will also offer many 10-15 minute multimedia modules that will explain and demonstrate key concepts critical to the success of the student. Participants in this class will have the same learner outcome expectations as those taking the class in the traditional manner.</p>	<p>Offering courses via the web is a desirable distance learning alternative. It is the vision of our center to eventually offer all our courses online.</p> <p>C++ is a core program requirement for both ITM's Application Development and System Administration emphases. Offering this class online gives our students the flexibility of completing a core requirement even if their location or schedule will not allow them to attend locally. The online version of this course will be available to students by Spring semester 2003.</p>
<p>Cleon Melsa</p> <p>Submitted spring 2001 Approved Presented 11/30/01 Payment</p>	<p>Interactive Problems Utilizing WebCT-v3 Calculated Questions</p>	<p>Using WEBCT version 3.6 to develop first time interactive materials for General Principles I</p> <p>The emphasis would be on developing assignment problems with randomly generated variables in the calculated questions of WebCT.</p> <p>Resulting in immediate feed back of the assignment results to the student.</p> <p>Become better informed on the calculate question section of WebCT-v3.6 Determine the strengths and weaknesses of the formula section of the calculated question.</p> <p>Present the topic of use of WebCT-v3.6 calculated questions in the fall workshop for Dr. Dan Lim.</p>	<p>One of the purposes of the grant is to encourage the students to complete their assignments in a timely fashion. The students will be given two chances to complete the question. Many times there will be a support box, which will give hints on how to reason the solution to the problem if it is not answered correctly the first time.</p> <p>The calculated questions will also encourage the students to do their own work. Unlike textbook assignment, each student is doing the exact same problem as every other student, each student assignment!</p> <p>Using the WebCT-v3.6 interactive assignment, the student will complete the assignment before coming to class and have immediate feedback. I will also be aware of their assignment results.</p> <p>Therefore, I will have a list of problems, which the students found to be difficult and I will be able to build upon this in the classroom.</p>
<p>Cleon Melsa</p> <p>Submitted 4/26/02 Approved Presented 3/26/03</p>	<p>Interactive Problems Utilizing WebCT-v3.6 Calculated Questions</p>	<p>Using Web-CT version 3.6 to develop first time interactive materials for General Principles II.</p>	<p>One of the purposes of the grant is to encourage the students to complete their assignments in a timely fashion. The students will be given two chances to complete the question. Many times there will be a support box, which will give hints on how to reason the solution to the problem if it is not answered correctly the first time.</p>

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Payment of \$2,500 authorized 6/24/03		<p>The emphasis would be on developing assignment problems with randomly generated variables in the calculated questions of Web-CT.</p> <p>Resulting in immediate feed back of the assignment results to the student. Become better informed on the calculate question section of WebCT-v3.6 Determine the strengths and weaknesses of the formula section of the calculated question.</p> <p>Present the topic of use of Web-CT-v3.6 calculated questions in the fall workshop for Dr. Dan Lim.</p> <p>Use Equation Editor if WebCT-v3.7 is available. This should allow for more variation in the types of calculated problems.</p>	<p>The calculated questions will also encourage the students to do their own work. Unlike textbook assignment, each student is doing the exact same problem as every other student, each student will now have a problem different than the rest of the students. No two students will have the same assignment!</p> <p>Using the WebCT-v3.6 interactive assignment, the student will complete the assignment before coming to class and have immediate feedback. I will also be aware of their assignment results. Therefore, I will have a list of problems, which the students found to be difficult and I will be able to build upon this in the classroom.</p>
Ken Myers Submitted 9/13/01 Approved Presented 4/5/02 Payment	Hospitality Applications in Excel and Over the Web	<p>The student will be able to demonstrate principles of menu analysis, breakeven analysis, as well as recipe conversion to theoretical or actual situations found in the industry.</p>	<p>My desire is to develop three interactive software applications:</p> <ol style="list-style-type: none"> 1- Menu Analysis Applications in Excel 2- Breakeven Analysis Applications in Excel 3- Conversion Calculator in Front Page using JavaScript <p>These applications would be very interactive and allow the student to develop "what if" scenarios. With the menu analysis the student would be able to manipulate data such as cost, selling price, and the menu mix. The analysis would then provide data on food cost percentages, the contribution margin, the CM rating, total revenues and cost based on the sales mix, and the classification of each menu item based on the sales mix. The desire is to have the software plot the analysis showing a visual representation. Students can then manipulate the data and observe the impact it has on the profitability of a menu. Students will be able to use this for menus they are planning as well as on menus that are actually in use.</p> <p>The Breakeven Analysis would allow students to develop a detailed plan on several spreadsheets that include such areas as cost of sales and operating expenses. They would then be able to manipulate the various amounts and see the impact it has on the bottom line. I plan for these spreadsheets to provide the student with data on industry averages for the various food service segments. They could then</p>

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			<p>compare the data with their own projections.</p> <p>The Conversion Calculator would allow students to test themselves on conversions as well as assist them as they work on converting recipes. This will be an item they can have on their own computer or use on the web.</p> <p>Each of the applications would be used in several classes. The Menu Analysis would be used in the Menu Design & Analysis class and would supplement the Restaurant Operational Management. The Breakeven Analysis would be used in the Catering class and supplement the Hospitality Cases and Trends class. The Conversion Calculator would be used in the Introduction to Food Preparation Course and supplement the Quantity Food Production class.</p> <p>I have done a partial draft of the menu analysis. It needs to be fully developed and refined. I have also started by to learn JavaScript and am testing my understanding of Java (or lack of it) by starting to work on the development of conversion calculator. This application will help the students and provide me with some learning experiences on Java. I have sketched what the breakeven analysis main page may look like and have started listing the several related pages that would need to be included for it to offer the student experience desired.</p> <p>All of these items can also be used by the student in industry to help them perform their duties as well as a training tool for their staff.</p>
<p>Ken Myers</p> <p>Submitted 4/27/02</p> <p>Approved</p> <p>Presented 3/26/03</p> <p>Payment</p>	<p>Hospitality Vignettes/Reviews</p>	<p>Produce and edit video streamed vignettes and special topic reviews for each subject in the Hospitality Selection & Procurement course.</p>	<p>About 16 months ago, I was asked if I would be willing to try video streaming for a class I was going to be teaching that spring at a distance (web). I agreed and it took about three weeks to figure out the needed settings, adjustments, etc. in order to produce a basic tape. Even then it was not a very good quality product and was totally unedited. I was able to learn a great deal from that first experience and today we have digital capabilities that will produce a much higher quality, and the ability to more quickly edit. I have been able to receive some great suggestions back from the students that have taken the class, and now feel ready to produce and edit higher quality products that can be used to enhance the subject matter and create a more complete learning environment with multiple options for the students both on & off campus.</p> <p>My goal is to start by producing vignettes / reviews for each subject for the Hospitality Selection and Procurement class. Each vignette, would either review or further explain the major points of the subject discussed, and/or add provide supportive information to the material covered in lecture. An example, would be to create a vignette on a particular food products with the characteristics, storage, quality indicators, etc. This particular course has a great deal of subject matter that needs to be covered and can be seen as very challenging for the student because it involves new terms and concepts. Because it is an ITV course, we seem to cover less of the subject matter over ITV compared to what I was able to in the traditional classroom.</p>

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			<p>I'm hoping that these vignettes will provide greater support for those that find understanding selected chapters more difficult or those that don't feel as comfortable with the ITV learning style.</p> <p>If this works the way I hope, it may allow more flexible time in the classroom for more group activities and other learning experiences.</p>
<p>Richard Nelson</p> <p>Submitted 10/19/01</p> <p>Approved</p> <p>Presented</p> <p>Payment</p>	<p>Electronic Program Requirement</p>	<p>Student/adviser access and maintenance of program requirements and progress.</p>	<p>UMC's current route for receiving information regarding a student's course/class completion (APAS) is currently not available electronically. A student or his/her advisor must first request this information through the Registrar. By developing an electronic program requirement portal each will have on-line information to schedule and or plan his/her degree here at UMC. The Center for Agriculture and Natural Resources currently has nine degree programs. Each of which have differing program requirements in addition to the general education courses required. Because of the need for APAS reports for course scheduling, an electronic portal will be of great use during class registration for the student and their advisor. This portal will allow students and advisors access to the students continuing degree seeking efforts electronically, 24 hours a day seven days a week.</p> <p>New material must constantly be gathered, evaluated and incorporated when a student wants to pursue another or additional program of choice. This electronic portal will allow students and advisors to plan current class/course selection in addition to viewing other possible program degrees within the Center for Agriculture and Natural Resources, which they may qualify for. Material will be deliverable in electronic formats. It will enable both the student and advisor to properly construct course direction and program navigation to fulfill the degree in a timely and effective manner.</p> <p>This mini-grant will support a student and advisor to review, collect, and compile completed and available courses for easier access, including delivery through the program's websites. The student, Mandy Kidrowski, is a student who indicates this experience will be of great benefit for all students and faculty when class registration occurs each semester, in addition to developing one's course schedule and the role the student can take when managing their program choice. All mini-grant dollars will be used for the student's stipend. The project will begin in October and end in December 2001.</p>
<p>Mary Pringle</p> <p>Submitted 2/20/02</p> <p>Approved</p> <p>Presented 4/19/02</p> <p>Payment</p>	<p>Using the Right Web-CT Tools for the Job</p>	<p>Comp 3313, Lit 1005, STC 3258 as well as my online versions of Comp 1011 and 1013 will use Web-CT to facilitate in-class delivery and make distance delivery better in case of snow days, instructor illness, etc.</p>	<p>I am choosing the technology tools available in Web-CT that best support each course as I teach it. The students benefit from using a familiar and useful environment from day to day, especially when in-class presentation is not possible.</p>
<p>Chris Robberts</p>	<p>Develop distance delivered learning and test modules as well</p>	<p>The stepwise decision making opportunity with immediate</p>	<p>The Web-CT-based learning modules that will be developed will allow for anytime, anyplace tutorial to help students find a way to solve calculations. On-campus</p>

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Submitted 6/27/02 Approved Presented 10/02 Payment of \$2500 authorized 12/16/02 (\$500 to Chris; \$2000 to Marthinus Robberts who did the Web publishing and code writing for the project)	as interactive instructional material to teach problem solution to students doing Applied Engineering Principles in class and on-line. The materials will be available on Web CT This will be used as additional materials for the distance delivered BM 3012 Applied Engineering Principles.	remediation when wrong decisions are made during the solving of intricate mathematical problems will allow distance students the same opportunity to learn a stepwise process to solve problems. The problems on the Web will be additional to the problem sets in the textbook.	students will normally get help with problem solving techniques in tutorial sessions. For distance students this benefit is not available and the proposed learning material will benefit them in particular.
Craig Silvernagel Submitted 5/17/02 Approved 5/29/02 Presented Payment	Mgmt 3100, Managerial Finance	Development of a World Wide Web-based Course	<p>Managerial Finance is a required core course for all UMC Business students, regardless of major. Through this project and the use of Web-CT technology, the content of this course will be made available for delivery on the web. The course will be designed for students that live at a distance and will offer them convenient access to this popular and required core business course. The course textbook provides web-based links to information resources that compliment and support chapter material, enhancing the delivery mode.</p> <p>This will be the first UMC finance course available online. Because of its popularity and its status as a required core business course, it will have strong market potential for student enrollment and can be used in conjunction with continued development of Center for Business and Technology online programs.</p>

SUMMARY:

Number of Mini-Grants Submitted 17
Number of Mini-Grants Approved
Number of Mini-Grants Not Approved
Dollars Awarded