

Mathematics Bridging Program

Semester 1 2012

This bridging course is intended for students:

- who studied WACE MAT3C/3D at secondary school, and
- who want to enrol directly into MAT1236;
- but who did not complete MAS 3A/3B/3C/3D.

While students who completed the West Australian High School Courses (WACE) MAT 3C/3D are allowed direct entry into MAT1236 Calculus 1; the unit does assume students have prior knowledge of topics which are covered only in the WACE MAS 3A/3B/3C/3D curriculum.

This Mathematics Bridging program is intended to cover these topics and will be of particular value for WACE students who completed WACE MAT 3C/3D; but who have not completed any of the WACE MAS subjects.

It will also be of value to students who studied WACE MAS3C/3D and would like a refresher on the topics prior to studying MAT1236.

This bridging program will be comprised of 7 sessions covering a number of relevant topics. It is offered by ECU's School of Engineering on the University's Joondalup campus.

The program will be run in the week prior to the start of semester: 20th-24th February 2012, with sessions scheduled at the following times and days:

- Tuesday, Wednesday, and Friday: 10am – 12pm; 1pm – 3pm
- Monday & Thursday: 10am – 12pm

Topics Covered

Trigonometry:

- Radians
- Sine and Cosine rules
- Arc length, areas of sectors and segments (circles)
- Trigonometric Identities
- Sine, Cosine and Tangent function; function transformations; and relation to the unit circle
- Solution of trigonometric equations over finite domains
- Differentiate and integrate sine, cosine and tangent functions

Exponentials and Logarithms:

- Inverse functions (domain and range, invertibility)
- Exponential functions and introduce the natural base e
- Log functions as the inverse of exponential functions (properties and graph)
- Change of base formula for logarithms
- Index laws and Log laws
- Derivatives of log functions
- Natural logarithm as the inverse of the exponential function with natural base
- Integrate functions of the form $\frac{kf'(x)}{f(x)}$

Vectors:

- Vectors in 2D and 3D. Notation, (x,y) and $x + yj$ form
- Vector magnitude
- Vector addition, and triangle inequality
- Position vector, relative displacement and relative velocity
- Dot product
- Parallel and Perpendicular vectors

Course Fee: This course is free for any student enrolled in a School of Engineering course, however a registration form still needs to be submitted.

\$250.00 (inclusive of GST)

This is fully refundable for cancellations made on or before Monday 13th February 2012.

If booking after Monday 13th February 2012, please telephone (08)304 5082 to check availability of places.

To Enrol: Visit payonline.ecu.edu.au and select 'SOE - Bridging Course' from the transaction list, then follow the prompts to register and pay online.

Alternatively, complete and forward the registration form below by Wednesday 15th February 2012.

Confirmation of your enrolment and further details of the course will then be mailed to you.

Mathematics Bridging Program 2012 Registration Form and Tax Invoice MBJO		
ABN 54 361 485 361		(ECU Ref: Onestop 023)
<i>Please enrol me in the February 2011 Mathematics Bridging Program:</i>		
SURNAME _____	GIVEN NAME _____	
COURSE _____	STUDENT NUMBER _____	
ADDRESS _____		
		POST CODE _____
CONTACT _____		
Phone (Home)	Phone (Work/Mobile)	Email

PAYMENT IS <u>NOT</u> REQUIRED IF YOU ARE ENROLLED IN A SCHOOL OF ENGINEERING COURSE	
Enclosed is a cheque/money order for \$250.00 or please debit my credit card \$250.00 (GST inclusive)	
Card Type:	Visa/Mastercard (Bankcard, Amex & Diners cards are not accepted)
Card Number:	<input type="text" value="XXXXXXX"/> <input type="text" value="XXXX"/> Expiry Date: ___ / ___
Name of Cardholder:	_____
Signature of Cardholder:	_____ Date: ___ / ___ / ___
All cheque/money order payments should be made payable to Edith Cowan University.	

Card Number:	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>
Expiry Date:	___ / ___
CVV Number: (Card Verification Value – found on back of card by signature panel)	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>

Complete and forward this form with remittance to: Caroline Bishop (JO21.520)
Faculty of Computing, Health & Science, Edith Cowan University, 270 Joondalup Drive, Joondalup WA 6027
Or Fax: (61 8) 6304 5577, Attention: Caroline Bishop